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IMPACTS OF BUDGET UNCERTAINTIES ON DEPARTMENT OF ENERGY'S NATIONAL LABORATORIES

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ORIGINAL

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY DEVELOPMENT AND APPLICATIONS

AND THE

SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION

OF THE

COMMITTEE ON SCIENCE AND TECHNOLOGY U.S. HOUSE OF REPRESENTATIVES

NINETY-SEVENTH CONGRESS

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IMPACTS OF BUDGET UNCERTAINTIES ON DEPARTMENT OF ENERGY'S NATIONAL LABORATORIES

WEDNESDAY, JUNE 2, 1982

HOUSE OF REPRESENTATIVES, COMMITTEE ON SCIENCE AND TECHNOLOGY, SUBCOMMITTEE ON ENERGY DEVELOPMENT AND APPLICATIONS, SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION,

Washington, D.C.

The subcommittees met, pursuant to call, at 1:45 p.m., in room 2318, Rayburn House Office Building, Hon. Don Fuqua (chairman of the Subcommittee on Energy Development and Applications) presiding.

Mr. FUQUA. The hearing will be in order.

This week the Congress is engaged in a struggle to craft a responsible budget. Many national needs have come into conflict with each other during the process. The very real here-and-now needs of poor people, ailing industries, and national security tend to direct our attention from the long-term foundation needed for the Nation's economic productivity and competitiveness.

The 25-year record of the Science Committee has established the critical importance of federally supported R&D programs in improving that productivity and competitiveness.

In the last 2 years, the committee has seen the Department of Energy's civilian R&D budget rapidly and painfully reduced. The Congress has helped to soften the rate of that reduction but, nonetheless, its effects have reverberated through the whole energy R&D community.

Today we will examine what has happened to a special part of that community, DOE's multiprogram laboratories and its field operations offices. These institutions represent DOE's major in-house technical and managerial expertise.

In some cases, they have been making contributions to the Nation's energy R&D needs for nearly 40 years. They are an irreplaceable national resource and even in times of tight budgets, we must work to maintain a core capability at these laboratories and field offices.

In this hearing, we want to learn the extent to which the laboratories and field offices have already taken losses, the programs most affected, the guidance provided by headquarters, and whether this guidance preserves congressional prerogatives when the Congress is in clear disagreement with administration policy.

What we will talk about today is not pleasant—for any of us. The reduced budgets for energy technology R&D are and will continue to be very real. The issue today is how well has the Department of Energy managed the Nation's resources of technical manpower and expertise in the face of those realities. How well have the laboratory directors been able to walk the very fine line of responsible concern for the morale and effectiveness of their technical staffs and a sensitivity for preserving options in a highly volatile budgetary situation?

This is the essence of responsible oversight. We deeply appreciate your being here and look forward to your testimony.

At this time I would like to yield to the cochairman of this hearing, Mrs. Bouquard.

Mrs. BOUQUARD. Thank you very much, Mr. Chairman.

First of all, I would like to echo Chairman Fuqua's remark that the subject of this hearing is not a pleasant one. Dealing with the indecisions and uncertainties associated with these times of tight budgets is difficult for everyone involved.

Indeed, the experience we had last week on the floor of the House illustrates the extent of the gulf that exists between the fiscal year 1983 budget presented by the administration and the budget priorities of Congress. The DOE national laboratories and operations offices—unfortunately—are victims of this impasse as they attempt to manage their resources and plan their research efforts upon which our Nation so desperately depends.

The laboratories' special combination of knowledge, equipment, expertise, and commitment to research and development provides the backbone of our Nation's R&D structure. Yet the value of the laboratory system as a national resource is being threatened by the present unstable fiscal and political climate.

Compounding the problem is the administration's so-called reorganization plan for the DOE which was finally delivered to Congress last week. This proposal further perturbs the already chaotic climate at the laboratories.

It is 40 years since U.S. scientists achieved the first self-sustained chain reaction under Stagg Field in Chicago; 39 years have passed since fissile isotopes were separated in the Calutrons at Oak Ridge; and it is 38 years since that artificial sun blazed over Alamagordo.

In the four decades since then, these laboratories have contributed greatly to U.S. preeminence in science and technology through both civilian and defense programs. Let us not forget the versatility of these institutions; the people are technical problem solvers with excellent track records.

I hope that the DOE is not forgetting that these laboratory staffs comprise a national treasure. Skilled teams that have taken years to assemble cannot be treated as part-time laborers or laid off and rehired as one would contract for custodial services.

We want to assist in preserving the laboratories' abilities to function efficiently so that they may continue to provide scientific and technical guidance to the national effort which is required to solve our energy problems.

I look forward to hearing from Mr. Mares, the laboratory directors, and operations office managers as we identify specific effects of these uncertainties and potential impacts on the DOE field capa-

bility. I hope that all of us can work together to carefully explore solutions that will reduce the level of uncertainty and preserve these unique capabilities.

Mr. FUQUA. Thank you, Mrs. Bouquard.

Before we continue, I would like to ask unanimous consent for television and recording and photographs to be made during the course of the hearing today.

Without objection, permission is granted.

Mr. Lujan.

Mr. LUJAN. Thank you, Mr. Chairman.

The two energy subcommittees have been very concerned about the effect of budgetary uncertainties on the national laboratories. In some cases, the laboratories have emphasized nonnuclear programs such that large reductions in force are inevitable. In other laboratories, there has been an emphasis on a few large facilities which will eventually lose their usefulness.

Neither of these situations can be addressed sufficiently in this hearing.

The third type of situation is the laboratories who have uncertainties about which programs will continue to be funded and at what levels. Since these uncertainties will not be resolved soon, the laboratories are facing critical decisions about reductions in force. In some cases, it may be possible to allow natural attrition rates to provide sufficient reductions. In addition, some laboratories may be able to delay purchase of many materials and services, thus retaining funds to maintain their most valuable assets: their technical personnel.

It is important to remember that the main purpose of the national laboratories is to provide long-range research. Any approach to budget uncertainty should be viewed from the context of how to best manage long-range research programs. These programs clearly cannot be well managed when, after laying off technical personnel, funding is restored and staffing levels have to be increased again. The successful management of long-range research programs depends on the ability to plan personnel requirements for long-term time periods.

It is conceivable that the laboratories, the operations offices, and the Department of Energy can work together cooperatively to come up with creative solutions for handling the problems caused by uncertainty and budget cuts.

I hope today we can discuss some of these possibilities. I want to welcome our witnesses today, and particularly Dr. Donald Kerr from Los Alamos National Laboratory in New Mexico. We had a nice ride in the airplane together yesterday and were able to discuss some of the problems we face, and I look forward to his testimony eagerly.

Mr. FUQUA. I hope you didn't run into thunderstorms as I did yesterday afternoon.

Mr. LUJAN. We got here just in time, before the airport was closed.

Mrs. BOUQUARD. I would also like to welcome Bob Hart, the manager of our Oak Ridge Operations Office and Dr. Herman Postma, Director of our Oak Ridge National Laboratory.

Mr. FUQUA. At this time we will now hear from Jan Mares, Acting Deputy Under Secretary for the Department of Energy.

STATEMENT OF JAN W. MARES, ACTING DEPUTY UNDER SECRETARY, DEPARTMENT OF ENERGY, AND DEAN HELMS, DIRECTOR, ORGANIZATION AND MANAGEMENT SYSTEMS

Mr. MARES. Thank you, Mr. Chairman.

I have some brief opening remarks not encompassed in my statement. My statement has been provided.

Mr. FUQUA. We will make your statement a part of the record in its entirety.

Mr. MARES. I am accompanied by Dean Helms, Director, Organization and Mangement Systems.

It is clear that the budget uncertainties for fiscal year 1983 make the management of institutions like the national laboratories very difficult. I have never met a manager and certainly none of the people who are testifying today would fall within that group, who enjoys reductions in force, or struggling over large budget uncertainties.

But all responsible managers know that reductions must be done periodically in organizations and done so in a sensitive and sensible manner. Each manager strives to maintain the vitality and viability of their institutions. I know that each of the operations managers and lab directors are working and will be working together to minimize the inevitable disruption that the reductions will cause.

I am sure that after the discussion today, you will conclude that that, in fact, is what we are trying to do, to minimize the reductions and disruptions that can come from changes in programs and reductions in programs.

We do recognize that these are disruptive and stressful to the organization, yet we are committed to maintaining the viability of these institutions, recognizing that some changes will be occurring.

I will be pleased to answer any questions that you may have.

[The prepared statement of Mr. Mares follows:]

STATEMENT OF JAN W. MARES

ACTING DEPUTY UNDER SECRETARY

DEPARTMENT OF ENERGY

IMPACTS OF BUDGET UNCERTAINTY ON THE
DOE NATIONAL LABORATORIES

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U.S. HOUSE OF REPRESENTATIVES

JUNE 2, 1982

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STATEMENT OF
JAN W. MARES

Mr. Chairman, Madam Chairman and Members of the Subcommittee, I appreciate this opportunity to discuss with you the effects of the Administration's FY 1983 resource requests on the DOE field management structure and National Laboratories.

As I'm sure you understand, whenever an organization faces significant policy and program changes as well as a major reorganization, employees will always have concerns, both for themselves and for the programs they manage. The President's budget sets forth the Department's programs and goals for FY 1983. The Administration's request to reorganize Federal energy functions has been under development for several months and was submitted to the Congress last week. While we recognize that Congress must act on those requests, as prudent managers we must do our planning based on the President's budget. Let me reiterate the statement which Secretary Edwards has previously made to other Congressional Committees that no Federal reductions in force will occur in FY 1982 based on the manpower levels and program changes in the FY 1983 budget until there has been Congressional action on our FY 1983 program. We have communicated this policy to Departmental elements and staffs. The Department's managers and staff are dedicated and mature individuals who recognize that, in a period of transition such as this, uncertainty will exist and must be dealt with constructively. I believe that our staff understands this and is fully capable of assuring the effective management of on-going programs and the orderly phase-out of programs which are not continuing.

The budget request for the next fiscal year is structured in a manner that is supportive of the proposed reorganization of energy functions currently administered by the Department of Energy. The objective of this budget (and the reorganization) is to continue the transition from costly energy policies and expanding energy bureaucracy to a policy that relies on the free market for solutions to many of our energy problems. It also relies on federal support oriented towards long term, high risk and potentially high-payoff research such as that being conducted by the National Laboratories managed by the Operations Offices.

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The FY 1983 budget request for energy programs has been developed to support the five basic responsibilities in energy which are unique to the Federal government:

- o Establishing sound public policies which give individuals and business the incentive to produce and use energy efficiently and allow an integrated energy market to function;

- o Protecting against energy supply disruptions, primarily through maintenance of the Strategic Petroleum Reserve;

- o Providing support to long-term, high-risk, potentially high-payoff research

- o Supporting national defense needs through civilian control of research, development, production, and testing of nuclear weapons; and

- o Performing other tasks, such as operation of Federal energy resource reserves and Federal Power Marketing Administrations, and utility regulation required by law.

In the reorganization plan, these responsibilities will be divided principally between the Department of Commerce and the Department of the Interior. The Department of Commerce will receive the bulk of the energy programs currently managed by the Department of Energy. Our energy technologies will be advanced by associating them more closely with the other technology development activities in the Department of Commerce.

This streamlined new organization will be able to focus necessary management attention on the difficult and unique set of problems that face high technology program development, and efficiency gains will result from the interrelationships of these programs. The Operations Offices and National Laboratories will continue to be integral components of these research programs.

I will discuss our management initiatives at the Operations Offices first and then the multiprogram laboratories.

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OPERATIONS OFFICES

The Operations Offices are the management arm of the Department in the field concerned with conservation, defense, nuclear and energy research programs. These offices are also responsible for the day-to-day management and administrative oversight of the activities of the National Laboratories under contract to DOE.

The President's budget request for FY 1983 does request a lower level of resources for the Operations Offices. That request, however, is commensurate with their more focused role in energy research activities. In that regard, we have undertaken a comprehensive review of the manpower and funding levels and program workloads to be assigned to the Operations Offices. The purpose of this study is three-fold:

- Provide to the Secretary and Deputy Secretary the current status of the structure, staffing, workload and capabilities of the Department's Operations Offices and the processes for workloading those offices by the Headquarters outlay program activities and staff offices.

- Develop the planned assignment of workload in FY 1983 by Headquarters program offices to the Operations Offices.

- Develop options for accomplishing the FY 1983 and subsequent year programs, given the restraints on staffing and funding. Included will be options for reallocation of staffing, restructuring of the mission, organization, and workloads at the Operations Offices and Headquarters program offices, examination of project management capability and options for further contract support.

The study team is just completing its onsite organization, manpower and program data collection efforts. The final report is scheduled to be submitted to the Secretary for his consideration early in July.

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As to the nature of the layoff situation at each of the field offices, no reductions in force will occur this fiscal year in anticipation of passage of the FY 1983 budget. Upon enactment of the FY 1983 appropriations for the Department, management will utilize the results of the Operations Office Study and any further policy guidance received from the Congress and the Administration to determine the appropriate structure, resource levels and workloads for the Operations Offices.

Should the Congress pass a continuing resolution for the Department at the FY 1982 levels and the President accept those funding levels, I would speculate that there might be a rough match of dollars and existing staffing levels. No detailed analysis of this general assumption has been made, however. The Committee's question regarding activity under a continuing resolution is general in nature and does not seem to allow for the Administration's change in energy policy and program emphasis, reorganization of federal energy functions, and the start up of any promising new research activities.

Federal regulations set forth the framework for the Department's policies on all reduction in force actions affecting Federal employees. Within that framework, the actions of departmental managers will ensure that employee rights are protected as the organizations realign and restructure themselves to accomplish their new program responsibilities in FY 1983. The Department will notify employees affected by a reduction in force as far in advance of the required 30 day notice period as is practical to do so. The Director of Personnel is responsible for general personnel policy guidance. The Personnel Offices at each of the Operations Offices operate within that guidance and are responsible for the day to day administration of local personnel policies and activities.

The Managers from the Chicago, Oak Ridge, Richland and San Francisco Operations Offices are also here today for this hearing. They will respond to the Committee's questions as they relate to individual Operations Offices.

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MULTIPROGRAM LABORATORIES

The multiprogram laboratories are Government-Owned Contractor-Operated (GOCO) facilities and are staffed with non-Federal Employees. The FY 1983 estimate of DOE funding at the nine multiprogram labs expected as a result of the FY 1983 Administration's budget is $2.2 billion compared with $2.4 billion in FY 1981 and $2.5 billion in FY 1982.

The multiprogram laboratories also conduct research for others, primarily the Nuclear Regulatory Commission and the Department of Defense, and also for industry and private institutions. For example, in FY 1981, approximately $470 million of such work was performed for others under reimbursable arrangements. We estimate $500 million in reimbursable work for others in FY 1982.

As with the Operations Offices, I would speculate that should the Congress pass a continuing resolution at the FY 1982 levels, there would still be personnel level reductions but of a somewhat lesser extent at the Laboratories. With the reduced overall level of funding in FY 1983, there will be some personnel level reduction. No detailed analysis of this general assumption has been made, however.

Due to the differences in the amount of subcontract activity in the programs being carried out at the laboratories, there will be differences in the impacts of the FY 1983 budget on the personnel levels for each laboratory. Additionally, at the laboratories with the responsibility for carrying out our national security missions, the growth in the defense programs budgets in FY 1983 is expected to partially offset the reductions in areas such as solar, conservation, and fossil. Since the Directors of the Los Alamos National Laboratory, Brookhaven National Laboratory, Lawrence Berkeley Laboratory and Oak Ridge National Laboratory are here today, they will discuss the impacts on their individual laboratories.

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I want to make it completely clear that both the increases and the decreases in programs are not accidental. They are the result of a clear and deliberate change in the Federal Government's policy concerning research and development and the role of the private sector. The effects at the laboratories flow from these programmatic decisions.

The Federal Government supports research and development (R&D) first, to fulfill governmental needs, where the sole or primary user of the R&D is the Government itself, for example, national defense R&D; and second, to meet non-governmental national needs, where the Government helps to assure the strength of the Nation's economy and the welfare of its citizens through the support of R&D in specific areas, such as agriculture, health and energy.

However, the primary responsibility for supporting or performing R&D needed to meet nongovernmental national needs does not, and cannot, lie with the Government. That responsibility lies with the private sector. The Government's primary role is to provide a climate for technological innovation which encourages private sector R&D investment. The Administration is fulfilling this role by reducing Government spending, regulation, and taxes.

The Government does, however, have an important role: to directly support or perform nongovernmental national need R&D where there is a substantial prospect for significant national economic gain, but where the private sector is unlikely to invest adequately because the potential gains are too remote or speculative. Thus, the Government supports basic research across all scientific disciplines but limits its applied research and technology-development activities primarily to technologies, such as fusion power, and breeder reactor which require a long period of initial development and where both the risk and potential payoff are high.

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DOE policy concerning the roles of its laboratories is consistent with the Administration's principles. The major missions of the laboratories will continue to be in their areas of traditional expertise: national security, basic and long-range, high-risk research and development. The large multi-disciplinary capabilities of the laboratories will continue to be of utmost importance in maintaining our technology base and our capability to do "cutting edge" research.

We are justifiably proud of our laboratories in the Department of Energy (DOE). The major multiprogram laboratories, along with the program dedicated laboratories, form the backbone of our research, development, and engineering capabilities. These laboratories are responsible for carrying out half of the Department's R&D programs. These programs range from the most fundamental research programs in the physical and life sciences to the most advanced goal-oriented design and development programs in nuclear reactors and nuclear weapons. The laboratories have built up an unusual diversity in scientific and technical resources, manpower and plant facilities that represent national assets of enormous importance.

Overall, DOE's budget for all R&D activities will decrease by 13 percent ($0.6B) from FY 1982 to an estimated total of $3.9B in FY 1983. The decreases reflect proposed curtailment of Federal support for near-term applied research and development projects consistent with Administration policy that such activities be carried out by the private sector. Consistent with Administration's overall science and technology policy, DOE's basic research programs will increase by 14 percent over FY 1982 to a level of $739M in FY 1983. Additionally, the Administration is fully committed to maintaining U.S. leadership in the development and testing of nuclear weapons including the development of improved technologies for maintaining nuclear weapons treaties and for safeguarding and disposing of waste from special nuclear materials production.

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We in the Department of Energy are committed to maintaining a strong and viable national R&D resource which is essential to assuring our economic, scientific and security positions. The policies of the Department that I have outlined here should be viewed as a challenge not a restriction. The challenge to the Operations Offices and multiprogram laboratories is to focus attention towards their traditional areas of expertise in management and in basic research and development of high technology programs.

Mr. Chairman, Madam Chairman, this concludes my presentation. I will be happy to address any questions you or the Members of the Subcommittees may have.

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BIOGRAPHY

JAN W. MARES
Assistant Secretary for
Fossil Energy

Jan W. Mares was nominated by the President to be the Department of Energy's Assistant Secretary for Fossil Energy on July 8, 1981. His nomination was confirmed by the U.S. Senate on July 28, 1981, and he was sworn in on August 12, 1981. In this position, Mr. Mares' major responsibilities include research and development of coal, petroleum, oil shale, tar sands and unconventional gas technologies.

Prior to his appointment, Mr. Mares' entire professional career had been with the Union Carbide Corporation. He joined the Corporation in 1963 and for 10 years was in the law department specializing predominantly in international, antitrust and commercial legal matters, and was appointed International Counsel in 1972. In 1973, he became business manager in Union Carbide's hydrocarbons department, responsible for the effort to develop a petrochemical project with an oil-producing country, and subsequently had various line and staff assignments in the chemicals and plastics area. He was named Vice-President-General Manager of the Ethylene Oxide Derivatives Division in January 1980.

Mr. Mares has been a Director of Energy Resources Co., Inc. of Cambridge, Massachusetts, and is a member of the American Chemical Society, American Bar Association, and New York State Bar Association.

Mr. Mares received a Bachelor of Arts degree in chemistry from Harvard College in 1958, a Masters' degree in chemical engineering from the Massachusetts Institute of Technology in 1960, and a law degree from the Harvard Law School in 1963.

Mr. Mares was born in St. Louis, MO, in 1936, and attended schools in Texas and Missouri. At the time of his appointment, he resided in New Canaan, CT, but has subsequently moved to Washington, D. C. He is married and has two children.

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Mr. FUQUA. Mr. Mares, in your prepared statement you state that Secretary Edwards has previously said, "No Federal reductions in force will occur in fiscal year 1982 based on manpower levels and program changes in the fiscal year 1983 budget until there has been congressional action on our fiscal year 1983 program."

Has there been any deviation from that at all?

Mr. MARES. No, sir.

Mr. FUQUA. Has there been any notice out to any of the labs that there must be adjustments made in personnel levels?

Mr. MARES. The national laboratories that we are talking about here are contractor-operated, and they have been given advice and guidance, based on the President's budget, that they should evaluate what is likely to happen in fiscal year 1983. As prudent planners they should consider taking actions now that would be consistent with what they believe the 1983 budget would be at their particular institutions.

Mr. FUQUA. In the statement that has been submitted, you assert that no Federal employees were let go in anticipation of the fiscal year 1983 budget, and in Mr. La Grone's testimony he says, "to plan for orderly reductions where required, the laboratories have estimated the impacts of the proposed 1983 impact on their staffing levels."

Now would not this effectively preclude any congressional initiative for some funding increases or areas where Congress may choose to make adjustments?

Mr. MARES. I do not believe it would preclude Congress. The managers of the laboratories know what is in the President's budget as it relates to their laboratory. Also, they try to be knowledgeable of what is the likely outcome of the budget for 1983. They know very well the existing mix of skills and programs, and are in the best position to determine when there are changes in programs, what changes are needed in skills at their particular laboratory. They are trying to decide intelligently how to anticipate what the program will be in fiscal year 1983.

Mr. FUQUA. Are we just operating in a field of semantics? Have you told the laboratories that you are only going to have this much money and you better be able to live with that in the next year, and then by that indirectly forcing them to make adjustments?

Mr. MARES. Each laboratory knows how much money they will have under the President's budget. None of us knows what the final appropriations will be. Yet, as prudent managers it is incumbent upon all of us, particularly the lab managers, to try to judge what is the most effective way to change the staffing, if required, at their institution and when to do it in anticipation of what they think the funding will end up being in fiscal year 1983. The longer we have uncertainties about the budget, the more difficult it will be for the managers to cope.

Mr. FUQUA. You indicate there is no detailed analysis that has been made, if I am correct, on the effect of personnel reductions in the national laboratories? Is that accurate?

Mr. MARES. In what sense, sir?

Mr. FUQUA. I think in your prepared statement on page 5, the middle paragraph.

Mr. MARES. That refers to what would happen if we were on a continuing resolution at the fiscal year 1982 level. The impact on the laboratories varies from laboratory to laboratory. There will be differences resulting from mixed changes regarding programs, particularly where some programs are in an increase mode, we have some startup situations of some large facilities. Also a continuing resolution does not take into account any impact of inflation from one year to the other, if it continues funding at the same level as the previous year.

Mr. FUQUA. What is your view of the role of the national laboratories in the energy policy?

Mr. MARES. The multinational laboratories have a very important role, as does the Federal Government, in supporting research and development. The national laboratories do work for us in the defense area and in other areas at large experimental facilities, such as in high energy physics, which are larger than any single university or other institution can operate. They are very important in the work in the basic science area that provides the basis from which a lot of technology is derived. They are very vital aspects of the national program in the support of research as it relates to energy.

Mr. FUQUA. You would classify them as a national resource.

Mr. MARES. Yes; not immune to change, but a national resource.

Mr. FUQUA. Do you feel that premature change in personnel, before Congress has finalized the budget—and we are certainly a long way from that yet—could be disruptive to the long-range function and efficiency of those labs, and the talent that is located within?

Mr. MARES. I think that the changes, whether they are premature or not, are going to be disruptive. Several labs have very substantial changes that are contemplated and change is very difficult. As a program ends, it is very difficult both for the labs and for the individuals in question.

Each of the lab directors is struggling, trying to come up with the most rational management approach in face of the uncertainties you are describing. They are very aware, as are we, of the increased difficulties that occur if a group is reduced in anticipation of lower funding levels and then funds were later made available. That is a very difficult management effort.

Doing some things today in anticipation of the budget is a more sound management approach than doing nothing. Each manager, knowing his own laboratory far better than I do, or better than any of the people in Washington, is trying to come up with the program, the action which will be the most sensitive to maintaining the viability and vitality of his institution, while being able to be responsive to the program funds that are finally appropriated.

Mr. FUQUA. Have you given any direction to the field offices on how the personnel at these national laboratories should be handled? The personnel ceilings?

Mr. MARES. There are no Federal employees at the national laboratories. There are Federal employees in the operations offices.

Mr. FUQUA. I mean about approving the budget and how it may be impacted on the laboratories.

Mr. MARES. Yes; we have told each laboratory what the proposed 1983 budget is and that we think as prudent managers they should begin to take action in 1982, to the extent that it makes sense, in anticipation of what they think the 1983 budget will probably be at their institution.

Mr. FUQUA. Even though the labs are operated under contract for the U.S. Government by other interests, do you not feel that they are national laboratories? We even have that in the name of some of them.

Mr. MARES. They are national laboratories, yes, sir. They are multiprogram labs.

Mr. FUQUA. You don't consider that a part of the Department of Energy?

Mr. MARES. Not in a legal sense but in a management sense, in a programmatic sense, yes, they are part of our activity.

Mr. FUQUA. You own the property there. You own all the equipment.

Mr. MARES. We all do.

Mr. FUQUA. I mean the taxpayers of the country.

Mr. MARES. That is correct.

Mr. FUQUA. That has been assigned by the Congress to the Department of Energy to manage.

Mr. MARES. That is correct.

Mr. FUQUA. But we, for varying reasons, with which I have no quarrel, have delegated this to other contractors that would manage these labs, but they are still national laboratories, are they not?

Mr. MARES. That is correct.

Mr. FUQUA. And a national resource for their country.

Mr. MARES. That is correct.

Mr. FUQUA. We can dictate to them the type of work we wish them to do.

Mr. MARES. That is correct.

Mr. FUQUA. And we do that through the appropriations process and through priorities established both within the administration and in the Congress and we talk to them about doing various types of research, so from an overall standpoint they are national laboratories. Technically they are operated by a contractor for the Government.

Mr. MARES. Yes.

Mr. FUQUA. That is where my concern is, that we seem to say: "Well, they are not part of the Government, that they are a private entity and we can treat them differently than we would something that was a national asset."

Mr. MARES. I guess we will have to agree to disagree on that. I think we are treating them very responsibly, sir. I think the managers of those labs, from whom you will hear shortly, are very responsible managers who are dedicated to retaining the vitality and vibrance of those laboratories. They are concerned, as are we, about the risk that comes if you reduce a research group prematurely and then have to try to rebuild. That is very disruptive, even more disruptive than the general reductions we are proposing.

Mr. FUQUA. The problem I am having is—and we may disagree over semantics about what the labs are, but in effect they are na-

tional laboratories. Now you are not giving them any direction in how they should manage their personnel problems. You are saying: We are just going to cut the budget and you do it as you see fit. Is that what DOE is doing? That is the impression I get.

Mr. MARES. I think the working relationship is a lot closer than that.

Mr. FUQUA. There appears not to have been any—I think you said there has been no direction given to them about how to do this.

Mr. MARES. That is correct. One of the reasons for there not being any direction is because of this difference, which I think is important, important for all of us; that is, you do have, in effect, an independent manager, operator of that facility. It is a national laboratory. It is a national asset in the sense we are describing it.

Mr. FUQUA. We are getting back to the technical point now.

Mr. MARES. We can say it is technical, but it is very important in terms of the overall productiveness of the research investment of this country. Having national laboratories in the sense we have them, contractor operated, provides a greater degree of flexibility for the Nation. We have supported this as a nation for so many years, as your colleague pointed out, I think it has been almost 40 years. And, we have quite successfully supported it. The GOCO arrangement does provide flexibility of management and of operation which is believed to be greater than if these institutions were staffed with federally appointed employees.

Mr. FUQUA. Mrs. Bouquard.

Mrs. BOUQUARD. I would like to say I really think these hearings are pointing to a national disaster. I think our national laboratories are a unique community comprised of dedicated men and women who have given their lives to the pursuit and achievement of excellence and I think to turn our back at this time on those who have achieved excellence for our country is not only a disservice to the American men and women who serve but I think it will be a disaster for our R&D program.

We spend a lot of time trying to tell our young people they must go to school, that our country needs scientists and engineers, that it is important to really train to be of service to our country, and then these are the sort of programs we put in place. I do not see a lot of challenge for young people to indeed pursue courses of excellence if this is going to be the policy of our Government.

On page 3 of your statement, I am a little confused, Mr. Mares. You talk about the President's budget request. Is this the February request, the April request, the Senate-passed budget I understand the President endorses, or are you talking about the Latta budget proposal? Which of these budgets are you talking about?

Mr. MARES. The February request.

Mrs. BOUQUARD. How does this compare with the April request?

Mr. MARES. I don't believe the Department of Energy——

Mrs. BOUQUARD. Isn't the Senate budget request increased to $5.3 billion? The President endorsed this one also.

I want to know what budget we are talking about.

Mr. MARES. We are talking about the President's request in February.

Mrs. BOUQUARD. Didn't he also endorse the Senate budget?

Mr. MARES. Yes; the President has endorsed the Senate budget and has also endorsed the Latta proposal.

Mrs. BOUQUARD. Which is lower than his original request. We have about four different sets of figures here, Mr. Mares. We need to identify which one we are talking about.

Mr. MARES. We are talking about the February request as it deals with the operations offices in my statement.

Mrs. BOUQUARD. Also we recognize the fact the President endorsed a Senate budget which was $5.3 billion and he also endorsed Latta which was about $3.6 billion; is that correct?

Mr. MARES. That is correct.

Mrs. BOUQUARD. So he has endorsed all three budgets.

Mr. MARES. The budgets are the total budgets and there is no commitment necessarily that the individual pieces will end up as that on the final appropriations bill.

Mrs. BOUQUARD. Has their position changed, then, has the OMB position changed that dramatically? We are talking about billions here.

Mr. MARES. That is correct.

Mrs. BOUQUARD. You can jump a billion around, a billion here.

Mr. MARES. What you describe is part of the uncertainty of the budget process which makes it difficult to manage.

Mrs. BOUQUARD. Is the Department of Energy's position inconsistent with the Senate budget?

Mr. MARES. The Department of Energy's position is that we are supporting the President's budget.

Mrs. BOUQUARD. Whatever that is.

On page 6 of your testimony, you refer to the Federal Government's policy concerning R&D. From what you say there, it is all over. Wouldn't it be correct to say the administration's policy, since the Congress seems to have a different view on the role of the Federal Government—in other words, in fossil energy R&D which you seem, I believe, to have a less kindly attitude toward than, perhaps, the Congress would, in this area—I mean is it all over? Are you saying that the administration's policy is a Federal Government policy, is it all over or does the Congress have any say?

Mr. MARES. I think the Congress has a great deal to say.

Mrs. BOUQUARD. On page 6 of your testimony, you say the Federal Government policy concerning R&D, why didn't you say Mr. Stockman's position?

Mr. MARES. We are presenting the administration's position and we do support R&D. We support basic science; and we support some long-range development activities, but not all that everybody would like to do.

Mrs. BOUQUARD. You say as a result of a clear and deliberate change in the Federal Government's policy concerning research and development and the role of the private sector.

Mr. MARES. That is correct. That is the administration's policy regarding——

Mrs. BOUQUARD. When you say administration's, you mean the Federal Government?

Mr. MARES. I would be happy to amend the statement to make it the administration policy.

Mrs. BOUQUARD. One final question, Mr. Chairman.

On page 3 of your testimony, you mention, "We have undertaken a comprehensive review of the manpower and funding levels and program workloads to be assigned to the operations offices."

Am I to understand this study has been undertaken since the DOE decided to reduce operations office manpower by over 1,000 people? Here is your chart. It seems to me you made a decision and then you did a study. Is that not correct?

Mr. MARES. We have made several studies over time about how to effectively utilize our——

Mrs. BOUQUARD. You made this study after you made the decision.

Mr. MARES. The official study has not been completed.

Mrs. BOUQUARD. Thank you very much, Mr. Chairman.

Mr. FUQUA. Mr. Lujan.

Mr. LUJAN. Thank you, Mr. Chairman.

Mr. Mares, in reply to the chairman of the committee, you indicated there was minimal involvement by DOE in the operation of the laboratories and I think that is exactly the way it should be—that you defined the mission, that the laboratories will work on, and come to, hopefully, a successful conclusion, and leave it up to the managers of those various laboratories to operate.

I don't think that the Department of Energy should be involved in setting the personnel levels. Perhaps some guidance is warranted in saying, well, we can defer these materials, or this particular program is no longer going to be needed because it is already ready for the private sector. However, it would seem to me that a minimum involvement on the part of DOE, as far as the laboratories is concerned, is what is needed. Is that basically the Department's position?

Mr. MARES. We do not try to operate the laboratories. It is not our role. I think the country has been well served by the national laboratories in the current role and relationship that we have had as you have described.

Mr. LUJAN. In other words, DOE sets the program and then turns it over to the laboratory, who moves it into the appropriate part of the laboratory.

I don't think that is a bad system. As a matter of fact, we were told about it more plainly when Admiral Rickover would appear before the committee. He would say, "Give me the money, tell me what to do and when you want it and leave me alone. If I don't get it for you then you fire me."

While he was a direct Government employee, he was acting as a contractor.

The difficult situation we face concerns the funding levels. We all have our own ox that we don't want gored and that is what happened last week on the floor of the House. Some thought there was too much for defense, others not enough; social programs, the same thing. Some thought the taxes were too high, some thought they were too low, and I can understand that is exactly the same problem that you face, knowing exactly where the budget is going to fall.

Let me give you a little insight that I have discovered in the last few days. One of the things is that we have had to adhere pretty closely to the President's budget, though I personally think it is too

high. I don't like those big deficits, but I don't want Los Alamos and Sandia to be reduced, either. Still, I feel we must adhere closely to the President's budget because, in the final analysis, that is who holds the upper hand.

If we pass an appropriation or an authorization that is way above what he believes it ought to be, then he just vetoes it.

I think in looking at what the funding levels should be, then, we ought to consider pretty much what the President has to say because he has the final voice in it.

Can you tell us about the difference in involvement by DOE or how the transfer of functions is going to work? What information can you give us, as far as your feelings are concerned, with regard to the possible transfer over to the Department of Commerce? Do you see any substantial difference in the way the laboratories are operated, or do you think we will still have the same problems we are looking at now?

Mr. MARES. I think the ones we have described today are the ones that evolve from the uncertainty in the budget and are not a matter affected by which Cabinet department the laboratories are located in, so I wouldn't see any difference.

Mr. LUJAN. Whether it is DOE or the Department of Commerce, or another department, that doesn't change the problem we are looking at here?

Mr. MARES. That is correct.

Mr. LUJAN. How do you think we can improve on the situation that exists? What advice would you give to Congress?

Mr. MARES. Obviously the sooner we come up with a budget for fiscal year 1983, the sooner managers throughout the Federal Government and the private sector can be more certain as to what action they should take.

Mr. LUJAN. So the basic problem is really the uncertainty rather than the levels of funding?

Mr. MARES. I think the individual laboratories would also be concerned about lower levels of funding, and so I think there are two issues. But I think that reducing the uncertainty would allow prudent managers, as they are, to take action earlier to ameliorate the impacts of the reductions.

Mr. LUJAN. If we didn't have a budget and we went on with past appropriations, and just went on to continuing resolutions, would the laboratories fare better, or worse?

Mr. MARES. It depends. Some laboratories would fare better and some would fare worse. Some have programs that are increasing in the President's budget and if there is a continuing resolution, if they don't get the increased funds they are hurt. Conversely, some have programs that are being reduced and would be better off under a continuing resolution.

It takes away the thrust of the proposed change in programs, much of which has been discussed in the course of the budget process before this committee.

Mr. LUJAN. If we were to generalize then—and I don't know this to be correct—those that are more heavily involved in defense research would do worse under a continuing resolution than those that are involved heavily in energy research, or vice versa.

Mr. MARES. The former. The laboratories more heavily involved in defense would come out worse under a continuing resolution than those that are less heavily involved in defense programs.

Mr. LUJAN. Thank you, Mr. Chairman.

Mr. FUQUA. Mr. Dunn.

Mr. DUNN. No questions, Mr. Chairman.

Mr. FUQUA. Mr. Mares, I just wanted to close with one thing—I don't want to differ and I am not differing with my friend from New Mexico, but I have no desire for the Federal Government to get into the day-to-day management of our Federal laboratories. I think it would be the worst mistake we could make. But the Federal laboratories were established under the auspices of the old Atomic Energy Commission as GOCO's that would do specific work for the Atomic Energy Commission.

In 1974 when ERDA was created—the 1973–74 timeframe when ERDA was created, they took over those labs and we asked those labs to expand responsibilities from just AEC-type work to help find alternative sources of energy and all the labs responded. They have opened the doors and used the talents, rightfully so in my opinion, to help solve a very critical energy problem.

Now when things get tight, instead of the traditional work they were accustomed to doing we now say, "OK, guys, you are on your own," and even though they are contractor operated, they are Government-owned GOCO's set up for a unique purpose.

The Government asked them to expand that role to other alternatives.

If I was managing one of those labs and after the rug was pulled out from under me one time—the first time it is your fault, but the second time it is my fault if I let that happen to me. If we go back to them again and say, "Friends our ox is in the ditch and we need some help," they may give us a very favored sign that people use around this town in traffic situations. That is the concern I have that we may be abusing the labs that have helped us and we finally say, "We have budget problems friends and you have to fend for yourselves."

They may get stung one time, but they may not get stung the next time. If I was operating one of those labs I would sure as the devil think twice before I got stung the second time. That is what our concern is about.

Mrs. Bouquard.

Mrs. BOUQUARD. Thank you, Mr. Chairman.

Would you please explain the steps involved in executing a reduction in force? What I am asking, what type of compensations are associated with RIF's? Is there a uniform policy with regard to compensation or does this policy vary from laboratory to laboratory?

Mr. MARES. It does vary from laboratory to laboratory.

Mrs. BOUQUARD. What type of compensations are associated?

Mr. MARES. I could let the individual directors report on their particular circumstances. I think they are better qualified to do that.

Mrs. BOUQUARD. Why does the policy vary from lab to lab?

Mr. MARES. Because each lab is operated by a different contractor.

Mrs. BOUQUARD. Thank you, Mr. Chairman.

Mr. FUQUA. Mr. Mares, we may have some questions we would like to provide for the record.

Mr. MARES. I would be pleased to respond.

[See appendix, p. 135.]

Mr. LUJAN. Before you leave, Mr. Mares, I don't know what bearing it has on it, but Sandia had no reduction in force except voluntarily. They went through some very serious RIF's in the early seventies. Maybe it is like getting an illness, you build up an immunity to it. They are faring pretty well now, I guess, having learned the lessons of the early seventies. They have protected themselves or managed the laboratory in such a way that they are not anticipating any RIF's. Your answer was that those laboratories involved more heavily in defense would fare better.

Mr. MARES. In the last several years, those that have been more into defense fared better in regard to staffing.

Mr. LUJAN. Thank you, Mr. Chairman.

Mr. FUQUA. Thank you, Mr. Lujan.

Thank you, Mr. Mares.

Next we will hear from a panel made up of the national laboratories, Donald M. Kerr, Director of the Los Alamos National Laboratory; Martin Blume, Associate Director of Brookhaven National Laboratory; David A. Shirley, Director of the Lawrence Berkeley Laboratory, and Herman Postma, Director of Oak Ridge National Laboratory.

Gentleman, we are thankful to have you here today. Your statements will be made a part of the record. If you wish to summarize, we will be pleased to receive that. We still start with you, Dr. Kerr.

STATEMENTS OF DONALD M. KERR, DIRECTOR, LOS ALAMOS NATIONAL LABORATORY; MARTIN BLUME, ASSOCIATE DIRECTOR, BROOKHAVEN NATIONAL LABORATORY; DAVID A. SHIRLEY, DIRECTOR, LAWRENCE BERKELEY LABORATORY; AND HERMAN POSTMA, DIRECTOR, OAK RIDGE NATIONAL LABORATORY

Mr. KERR. Mr. Chairman, Mrs. Bouquard, it is a privilege to be here to address you and other members of the committee. I would like to recall a bit of history to clarify the record and in particular present what I would call a long history of partnership with the Federal Government.

Our laboratory, as perhaps you learned on Tuesday night television, was started almost 40 years ago under the management of the Army Corps of Engineers. At that time it had a single purpose which was to design and build the world's first nuclear explosive device. The laboratory first diversified with the first stirrings of the fusion program in 1947 leading to experiments in the early fifties, development of the space nuclear propulsion program during the fifties; and then, as you so clearly pointed out, with the desire of the Congress to broaden the mission of these laboratories with the changes of the Atomic Energy Act in 1972, we again diversified into all energy supply technology.

I call it a partnership because, throughout that period and even today, the University of California, which operates Los Alamos,

Livermore, and the Lawrence Berkeley Laboratory, has really had only one contractual responsibility and that is to provide a trained scientific and engineering staff to do those programs of greatest interest to the Federal Government. The Government owns the laboratory, it owns the facilities, and in fact all that the university does is to assemble that staff, and of course, make sure that they get paid.

In 1970, several of the laboratories, in fact, contracted at that point in the sense that we had reductions in force. Mr. Lujan made reference to Sandia; at that time, Los Alamos did nearly as well. Even then, in a period of adversity, there was a partnership relationship with the sponsor agency—the Atomic Energy Commission—which tried to look forward in time with the laboratory to help us decide which areas we should retain and be strong in and which areas would, because of Federal program decisions, be less emphasized in the future.

Of course, the phaseout of the space nuclear propulsion program was one clear signal, at that time.

Today we are looking at actions to anticipate fiscal year 1983, and, granted our knowledge of it is imperfect and through guesswork in large part, we have in fact been able to take some actions, such as restricting hiring, looking at potential deferrals of salary increases, reducing travel, procurement, materials and services, and attempting to prepay fiscal year 1983 costs in fiscal year 1982, when that is an appropriate thing to do.

In 1982 we also had to take actions relative to employment because, as you are well aware, the final changes in the Department of Energy budget were announced in September, just prior to entering fiscal year 1982, and in consequence we had to undergo a reduction in force for this year. We did it by first asking for volunteers to separate from our work force; we had 259 volunteers and then we had 53 involuntary separations for a total of 312. So, our current strength is 7,002 full-time equivalents.

With regard to when actions might be taken in fiscal year 1982 relative to staffing for fiscal year 1983, we would be able, for example, to further reduce staff and have the costs accrue this fiscal year with approximately 90 days' notice. That is, we need to know 90 days prior to the end of September.

With regard to the various projected figures for fiscal year 1983 that we see before us, the President's budget is the most favorable for our laboratory, since it is approximately half in defense-related activities and half in nondefense.

Under the administration's fiscal year 1983 budget request, we would have to reduce a further 370 full-time equivalents. If, on the other hand, we had a continuing resolution at fiscal year 1982 levels, we would have to reduce by approximately 500 full-time equivalents. If we had a continuing resolution written as they have been in the past to take the lesser of the President's requests or the fiscal year 1982 rate, we would have to reduce by 750 full-time equivalents. In other words, we would have to reduce something more than 10 percent.

The effects of these uncertainties are very hard to quantify. As some have observed previously, the real asset of a laboratory like ours is, of course, the professional staff that has been assembled.

One way to measure the effect would be, for instance, to ask how many years of experience would be lost to future programs if one, for example, reduced by 370 FTE's and we found that our present best estimates of those who would be reduced would cause us to lose, at the start of the new fiscal year, something like 1,890 man-years of professional staff experience; and if we were delayed in taking action in the end of the first quarter of fiscal year 1983, this would rise to 2,850 staff years because we would have to reduce more staff in order to deal with the problem later in the fiscal year.

As far as we are concerned, the possibilities of rehiring after reduction are very small. As you are aware, Los Alamos was created as a Federal reservation. There is nothing here except the national laboratory. Hence, people laid-off from our laboratory go elsewhere. We would have to recruit them elsewhere and bring them back to New Mexico and the cost would be rather high.

In terms of the effects on our research teams, the most unquantifiable aspect is the effect of morale on productivity and also the effects of uncertainty on recruiting. Institutions such as ours live, in time, by bringing in new people with new skills in disciplines needed for new programs. Hence the greatest effect we see, other than the pain of a reduction in force on those reduced, is the uncertainty that would exist in the minds of their colleagues.

We operate as a single laboratory, not simply as the sum of a set of programs, and so we hire physicists and engineers, not people who are necessarily geothermal experts or weapons experts. We have to train them, and that training takes place typically over about a 5-year period. And so an adverse effect on the climate for retaining these people in whom we are beginning to invest is of concern to us.

We also have a very special mission related to the weapons program, and I think for us, that is very important in terms of creating a climate to attract and retain the very best people. It is quite simply this: For 60 percent of the Nation's nuclear stockpile, I take the responsibility of telling the Department of Energy and the Congress that those devices will in fact work as planned, both in wartime and in peacetime. I don't do that on the basis of my own knowledge and experience totally, I do it because I can rely on trained, and experienced, and skilled professional people in whom we have invested many years of development and in whom this trust ultimately resides.

The prospects at the present time are, in the absence of authorization and appropriation actions, that we have no real programmatic guidance at this point in time. Once again we are looking at entering a new fiscal year with the knowledge that to some degree we are likely to need to reduce, but without the specific kind of guidance we need that would tell us which people, which skills, and in some detail, which programs we ought to be focusing our attention upon.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Keer follows:]

LOS ALAMOS NATIONAL LABORATORY

DATA SUBMITTED BY DONALD M. KERR, DIRECTOR

TO THE

U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON SCIENCE AND TECHNOLOGY

SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION

June 2, 1982

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EMPLOYMENT LEVELS AT LOS ALAMOS

	FY80	FY81	FY82	FY83 President's Request	FY83 Continuing Resolution
Full-Time Equivalents (average for year)	6936	7163	7131	6630	6250
Full-Time Regular Employees (average for year)	6621	6825	6881	6397	6030
Reduction-In-Force					
Voluntary Separation	-	-	259		
Involuntary Separation	16	14	53		
TOTAL	16	14	312	307*	747*

*Assumes an appropriation bill becomes law by July 30, 1982. The number grows higher as the year progresses.

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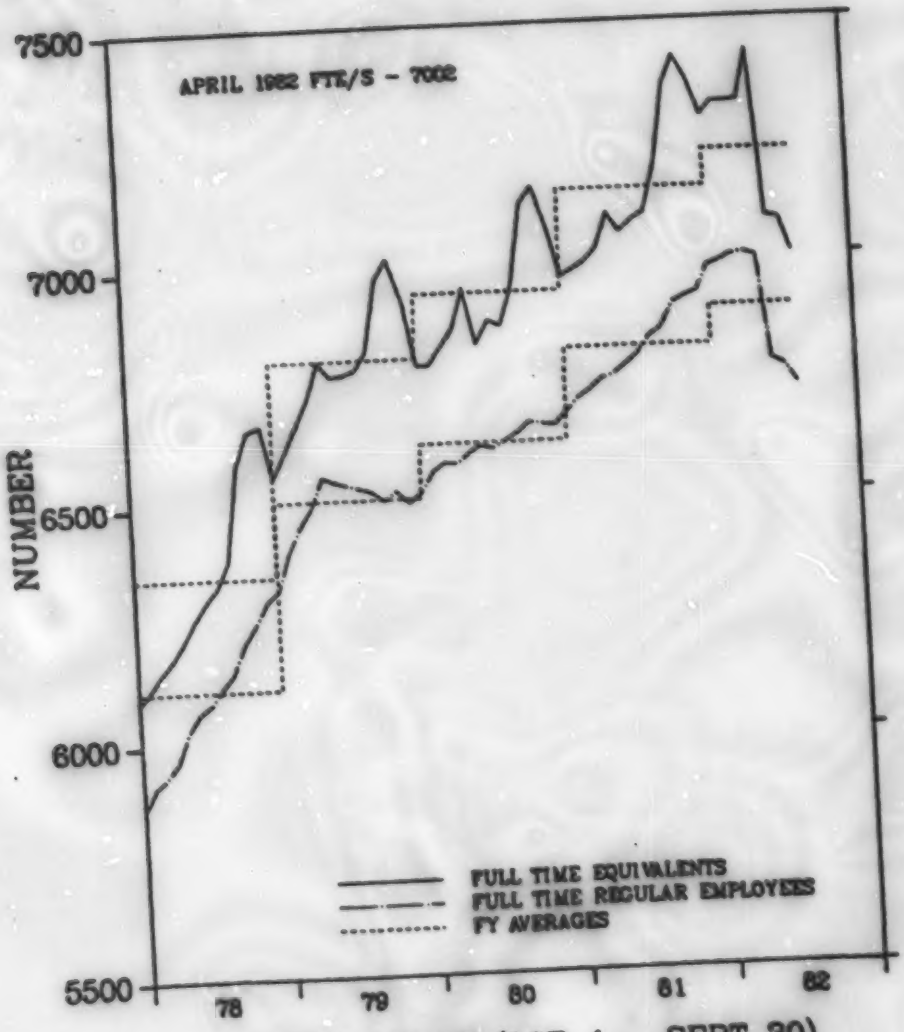

ACT-DO 4/30/82

LOS ALAMOS EFFORT

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The Size of a RIF as a Function of the Time Which Firm Budget Information is Available Upon Which to Base Such Actions

The attached graph shows very clearly that to save money in FY83 by reducing employment levels at Los Alamos, the Laboratory is best served by action taken early in the last quarter of FY82. To wait until the middle of the first quarter of FY83 requires roughly a 25% increase in employment losses. And that curve rises steeply.

In the example of the chart attached, if we were to know by June 30 that the President's budget had been enacted, we would then need to issue reduction-in-force notices to 265 employees. If we wait to issue such notices until the date of July 30, then we would be required to layoff 307 employees. There are costs associated with a reduction-in-force, the principal one being severance pay to the employees affected. If this money can be taken from the last quarter of FY82, then that allows the savings to occur throughout the entire year of FY83.

On the other hand, if we wait until the middle of FY83 to take these actions, we face the problem of having already expended salaries for one-half of the fiscal year--salaries that we would not have carried if we had known earlier in the year that reductions would be required. And the savings accrued are only half the amount that would have occurred if the reduction-in-force had occurred before the beginning of the fiscal year. Therefore, many more people would have to face the reduction-in-force. Continuing the same example, this would mean that if the layoff occurred March 30, then 826 employees would lose their jobs.

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The Loss of Trained Manpower and Professional Expertise

When a Reduction-In-Force occurs at Los Alamos, the Laboratory loses a great deal of trained manpower and the government loses a substantial investment that has occurred in training that manpower. At Los Alamos, the averge tenure of staff members is approximately 12 years. Most of these hold PhDs and Masters Degrees. The average years of service for those who are likely to be involved in a Reduction-In-Force is 15 years. If a Reduction-In-Force occurs at Los Alamos of 307 employees, then approximately 41% of these would be staff members, which would mean 126 staff members. In terms of trained man-years, this would be 1890 lost man-years of experience.

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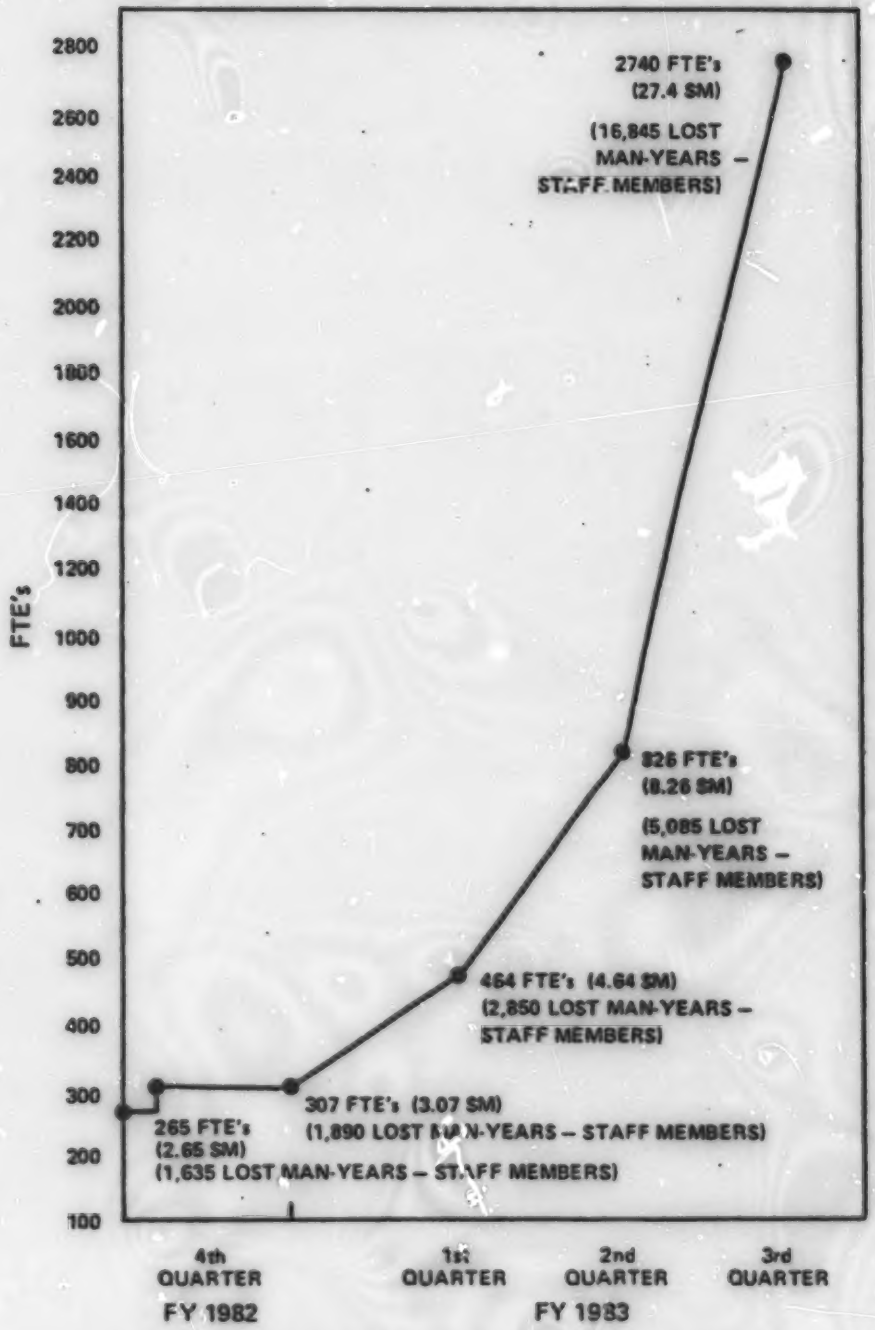

NUMBER OF EMPLOYEES TO BE RIF'D DEPENDING UPON LOS ALAMOS KNOWLEDGE OF FUNDING FOR FY 1983 – (PRESIDENT'S BUDGET DATA)

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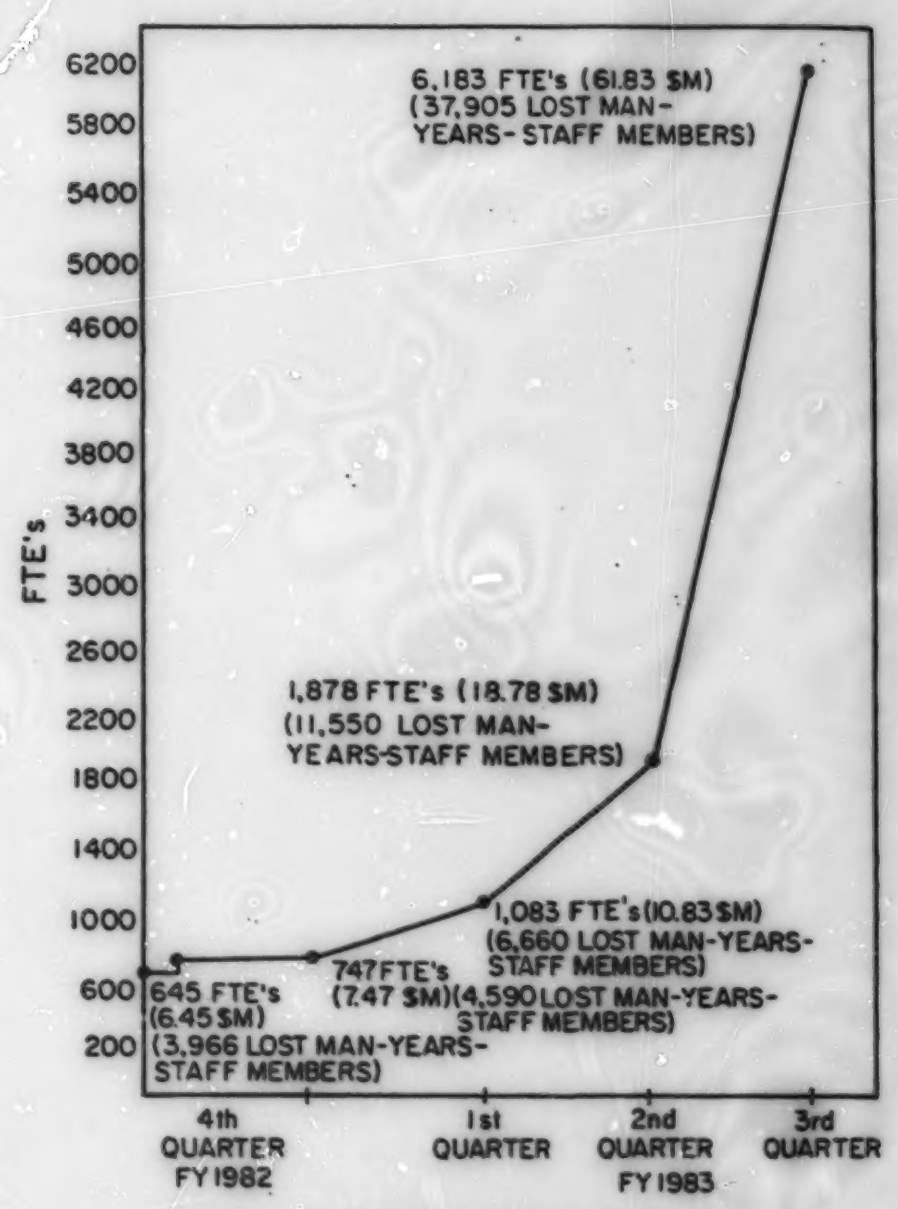

NUMBER OF EMPLOYEES TO BE RIF'D BASED ON THE CONTINUING RESOLUTION FOR LOWEST POSSIBLE FUNDING IN 1983

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Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

June 1, 1982

DONALD M. KERR

Donald M. Kerr was appointed Director of the University of California's Los Alamos National Laboratory in 1979. Prior to his appointment as the Director of the Laboratory, Dr. Kerr had served as Acting Assistant Secretary and Deputy Assistant Secretary in the Department of Energy since December 1977. He served first in the Office of Defense Programs and subsequently in the Office of Energy Technology. Before his Washington assignments, Dr. Kerr was Deputy Manager of the DOE Nevada Operations Office.

Dr. Kerr was employed by the Los Alamos National Laboratory from 1966 until 1976. He began as a staff member of the High Altitude Phenomenology Research Group and became the group leader in 1971. He later was named as Assistant Division Leader for Field Test and then Assistant for Research to the Director's Office. In 1975 he became the Alternate Leader of the Energy Division.

A native of Philadelphia, Dr. Kerr received his Bachelor's degree in electrical engineering and his Masters from Cornell University. He earned a Ph.D. in plasma physics from the same institution in 1966. He is Chairman of the Committee on Research and Development, International Energy Agency (OECD); Chairman of the Board of the New Mexico Energy Research and Development Institute; Chairman of the Stanford Research Institute's National Security Advisory Council; serves on the Joint Strategic Target Planning Staff, Scientific Advisory Group; and the Advisory Board, Georgetown University Center for Strategic and International Studies.

Dr. Kerr is married to the former Alison R. Kyle of Lakewood, Ohio, and has a daughter, Margot.

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Mr. FUQUA. Mr. Blume.

Mr. BLUME. Thank you, Mr. Chairman and members of the committee.

I am pleased to respond to the request to testify and to have the opportunity to discuss the problems facing the national laboratories. To address the questions asked, I would like to describe the process by which our laboratory is managed, as this will enable me to put the answers in the proper context and to explain that even in the best of times we operate under difficulties.

How do we meet the payroll? To operate the laboratory in 1983 within the budget ultimately given us by congressional action and by the Department of Energy, we must take many steps within the present fiscal year. The Brookhaven budget doesn't come to us in a single lump sum. Funds are allotted to us through seven separate appropriations. DOE's appropriations further break down to 53 authority-controlled levels, and ultimately we must conform to 103 reporting levels.

According to the numbers we have right now, some levels will increase in the Presidential budget in the coming fiscal year, and some will decrease. We have, of course, given our principal attention to the scientific and technical opportunities in front of us, and we must make these conform to budgetary realities.

This should be the principal concern of the laboratory management and the scientists working there, but as you will see, we have to give a considerable amount of our attention to the budgetary realities. Even if we know firmly the amount of money to be available to us beginning in October 1982, we would be constrained by these restrictions in reconciling our priorities with the budget.

The majority of our funding must be spent in this fiscal year. We must therefore take actions now to meet the levels expected for October. If we are to terminate employees, we must do this with enough time remaining in the year so that termination costs can be met. If we are to add personnel, especially scientists, we must begin now to recruit, since many of the people we want to add to our staff will be constrained by the timing of the academic year.

All this is made extremely complicated by the fact that we don't know how much money we are likely to have next year. In order to set a figure for our budget, we begin in December to try to learn how much money our funding agencies will provide for our different programs. This requires considerable cooperation from the agencies, and in some cases, we can only guess at the amount likely to be made available to us. Our budget office puts all of this information together and brings to us a likely Presidential budget by the time the Administration's budget is sent to Congress.

We then examine these numbers in the light of our scientific priorities, and our departments prepare a plan to meet this budget for the coming fiscal year. These plans can involve adding personnel in some areas where growth is expected and laying off in others. It is, of course, not always possible to transfer people from low funding areas to areas of growth, since very different skills may be involved.

Working with these budget numbers, we then determine the impact on personnel levels, and we begin to take action. When we reduce personnel, we must take this action early enough so that we

have enough money left from this year's appropriation to pay termination costs. We cannot wait until September 30 to reduce our staff.

In a normal year we are able to deal with the process because Congress does not make major changes in the Presidential budget. In addition, when funds are increased we can make arrangements for cuts even if Congress does not act until after the beginning of the fiscal year. In recent times, however, this process has fallen apart.

How did it work in fiscal year 1982? First, we were faced with the difficulty of having two Presidential budgets. The budget proposed by President Reagan contained a substantial reduction in funding for us and was not available to us until March. Vigorous efforts were required to enable us to start fiscal year 1982 with our budget in balance, and a staff reduction of about 350, 10 percent, was required.

Just as the fiscal year began in October 1981, we learned that the State of New York would provide us with relatively low-cost electricity from the Power Authority of the State of New York [PASNY] to enable us to continue to operate our research machines. This reduced our operating costs by about $5 million and had been taken in part into account in determining the staff reductions required to operate the laboratory in fiscal year 1982.

Immediately following the Governor's announcement of the provision of PASNY power, President Reagan announced the 12-percent reduction in his budget. It was virtually impossible for us to meet in any way a 12-percent reduction in costs once the fiscal year had begun.

By the time Presidential and congressional interaction had led to a final appropriation for fiscal year 1982 sometime in December, the reduction was more like 4 percent. This required an immediate reduction in staff, in December, of about 80 people, and the continuation of a hiring freeze. We were able to hold to this relatively low figure because the savings from PASNY power, as well as a reduction in fuel oil costs, provided us with a reasonable margin.

The uncertainty of this process had a severe negative effect on the morale of the scientists and workers at the laboratory, as well as a chaotic impact on the planning of our research efforts.

A more rational procedure would enable us to run the laboratory more effectively, but it is probably too much to hope for the provision of multiyear funding, which would enable us to plan more reasonably. It would, however, be very advantageous if we were able to carry over funds from one fiscal year to another in all our programs, instead of in the relatively small number for which it is now possible.

Such carryover would not be a substitute for timely information on the budget, but it would give us a small tool in dealing with uncertainty.

With this background, let me now turn to the questions I was asked to address.

On May 10, 1982, Brookhaven notified 74 employees that they would be laid off effective May 21, 1982. In addition, 46 positions have been eliminated so far this year by attrition. The total reduc-

tion in employment to date, because of the DOE Presidential fiscal year 1983 budget for BNL, is therefore 120.

The final date that management decisions regarding staffing levels for fiscal year 1983 should take place is in late spring or early summer, so that the cost of termination can be met with funds available in the current fiscal year.

The majority of our funding comes from the energy and water development appropriation under which we are controlled by both authorization levels and by cost ceilings, so that funds cannot be carried forward. To minimize the impact on the employment level in the next fiscal year, we try to achieve all necessary actions in the current year.

In the case of terminations in other programs funded by appropriations that do not impose ceilings on cost, we decide when termination must take place by determining the time at which the funding authorized to us will cover no more than our liability for termination costs. We can and do delay termination if requested to do so by DOE, and DOE recognizes that these actions require additional funding in the next year. This year, we were requested by DOE to take no action to terminate our National Nuclear Data Center "data evaluation" project for the breeder program, even though we have been advised that funding will be curtailed in fiscal year 1983. We have responded accordingly and informed DOE of our need for termination costs if the program is, in fact, reduced in scope or closed out next year.

The layoff situation at Brookhaven is as follows:

First. If the fiscal year 1983 budget is passed at the levels requested by the administration, Brookhaven will lose 250 positions. This assumes that there will be no construction funds for the Isabelle project.

Second. If the DOE programs are funded by a continuing resolution at fiscal year 1982 levels and BNL is also held at fiscal year 1982 levels, we would lose about 450 positions. This consists of 300 positions in operations and 150 positions in the Isabelle project. I have assumed that no construction funds for Isabelle would appear in the continuing resolution.

The impact of a continuing resolution on Brookhaven's programs extends beyond the reduction in force. It would cut deeply into one of our basic purposes, which is the operation of our large research facilities. The national synchrotron light source [NSLS] became operational this year, and an increase of $2 million is needed for full operation and staffing.

The alternating gradient synchrotron [AGS] is at present running under capacity, and the fiscal year 1983 budget will provide for a 50-percent increase in running time. Similarly, the cost of operating the high flux beam reactor will increase by about $1 million from fiscal year 1982 to fiscal year 1983 because of the increase of reactor power to 60 megawatts, with a higher neutron flux.

In many cases we have already made commitments, in hiring and in materials, for these funds in fiscal year 1983. These facilities are operated for the benefit of university and industry scientists, as well as for Brookhaven's research staff. Indeed, nearly 80 percent of the AGS and NSLS utilization is by outside researchers. A con-

tinuing resolution would have a disastrous effect and it is difficult to see how we can manage in these areas, given the commitments we have already made.

The other side of the coin is found in some of our energy research programs. Some areas for which the President's budget eliminates funding in fiscal year 1983 would benefit from continued funding at fiscal year 1982 levels. We are then faced with the possibility of finding ourselves with funding in fiscal year 1983 for programs for which we will have discharged the staff.

The most difficult questions which we should address are the scientific and technical priorities, but the attention of the management end of the scientific staff is diverted because of these uncertainties in the budget and it makes extremely difficult the operation of institutions like Brookhaven which are in fact a national resource.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Blume follows:]

Testimony of

Martin Blume

Associate Director
Brookhaven National Laboratory
Upton, NY 11973

Before the House Subcommittees on

Energy Development and Applications
and
Energy Research & Production

IMPACTS OF BUDGET UNCERTAINTY ON THE DOE NATIONAL LABORATORIES

June 2, 1982

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In order to address the questions asked in the invitation to me to testify, I would like to describe the process by which Brookhaven is managed. This will enable me to put my answers in the proper context and to explain that we operate under difficulties even in the best of times.

How do we meet the payroll? To operate the Laboratory in FY 1983 within the budget ultimately given us by Congressional action and the Department of Energy, we must take many steps within the present fiscal year. The Brookhaven budget does not come to us in a single lump sum: funds are allotted to us through 7 separate appropriations. DOE's appropriation further breaks down to 53 authority-controlled levels, and, ultimately, we must conform to 103 reporting levels. We have, of course, given our principal attention to the scientific and technical opportunities in front of us, and we must make these conform to budgetary realities. Even if we know firmly the amount of money to be available to us beginning in October 1982, we would be constrained by these restrictions in reconciling our priorities with the budget.

The majority of our funding must be spent in this fiscal year. We must therefore take actions now to meet the levels expected for October. If we are to terminate employees, we must do this with enough time remaining in the year so that termination costs can be met. If we are to add personnel, especially scientists, we must begin now to recruit, since many of the people we want to add to our staff will be constrained by the timing of the academic year. All this is made extremely complicated by the fact that we don't know how much money we are likely to have next year. In order to set a figure for our budget, we begin in December to try to learn how much money our funding agencies will provide for our different programs. This requires considerable cooperation from the agencies, and in some cases we can only guess at the amount likely to be made available to us. Our budget office puts all of this information together and brings to us a likely Presidential budget by the time the Administration's budget is sent to Congress. We then examine these numbers in the light of our scientific priorities, and our Departments prepare a plan to meet this budget for the coming fiscal year. These plans can involve adding personnel in some areas where growth is expected and laying off in others. It is, of course, not always possible to transfer people from low funding areas to areas of growth, since very different skills may be involved.

Working with these budget numbers, we then determine the impact on personnel levels, and we begin to take action. When we reduce personnel, we must take this action early enough so that we have enough money left from this year's appropriation to pay termination costs. We cannot wait until September 30th to reduce our staff. In a "normal" year we are able to deal with the process because Congress does not make major changes in the Presidential budget. In addition, when funds are increased, we can make arrangements for cuts even if Congress does not act until after the beginning of the fiscal year. In recent times, however, this process has fallen apart. How did it work in FY 1982? First, we were faced with the difficulty of having two Presidential budgets. The budget proposed by President Reagan contained a substantial reduction in funding for us and was not available to us until March. Vigorous efforts were required to enable us to start FY 1982 with our budget in balance, and a staff reduction of about 350 (10%) was required. Just as the fiscal year began in October 1981, we learned that the State of

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New York would provide us with relatively low-cost electricity from the Power Authority of the State of New York (PASNY) to enable us to continue to operate our research machines. This reduced our operating costs by about five million dollars and had been taken in part into account in determining the staff reductions required to operate the Laboratory in FY 1982. Immediately following the Governor's announcement of the provision of PASNY power, President Reagan announced the 12% reduction in his budget. It was impossible for us to meet in any way a 12% reduction in costs once the fiscal year had begun. By the time Presidential and Congressional interaction had led to a final appropriation for FY 1982 sometime in December, the reduction was more like 4%. This required an immediate reduction in staff, in December, of about 60 people, and the continuation of a hiring freeze. Were were able to hold to this relatively low figure because the savings from PASNY power, as well as a reduction in fuel oil costs, provided us with a reasonable margin. The uncertainty of this process had a severe negative effect on the morale of the scientists and workers at the Laboratory, as well as a chaotic impact on the planning of our research efforts.

A more rational procedure would enable us to run the Laboratory more effectively, but it is probably too much to hope for the provision of multi-year funding, which would enable us to plan more reasonably. It would, however, be very advantageous if we were able to carry over funds from one fiscal year to another in all our programs, instead of in the relatively small number for which it is now possible. Such carryover would not be a substitute for timely information on the budget, but it would give us a small tool in dealing with uncertainty.

With this background let me now turn to the questions I was asked to address. (The letter of invitation is attached as an appendix and can be used as a key to the responses.)

A. On May 10, 1982, Brookhaven notified 74 employees that they would be laid off effective May 21, 1982. In addition, 46 positions have been eliminated so far this year by attrition. The total reduction in employment to date, because of the DOE Presidential FY 1983 budget for BNL, is therefore 120.

B. The final date that Management decisions regarding staffing levels for FY 1983 should take place is in late spring or early summer, so that the cost of termination can be met with funds available in the current fiscal year.

The majority of our funding comes from the Energy and Water Development Appropriation under which we are controlled by both authorization levels and by cost ceilings, so that funds cannot be carried forward. To minimize the impact on the employment level in the next fiscal year, we try to achieve all necessary actions in the current year. In the case of terminations in other programs funded by appropriations that do not impose ceilings on cost, we decide when termination must take place by determining the time at which the funding authorized to us will cover no more than our liability for termination costs. We can and

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do delay termination if requested to do so by DOE, and DOE recognizes that these actions require additional funding in the next year. This year, we were requested by DOE to take no action to terminate our National Nuclear Data Center "Data Evaluation" project for the Breeder program, even though we have been advised that funding will be curtailed in FY 1983. We have responded accordingly and informed DOE of our need for termination costs if the program is, in fact, reduced in scope or closed out next year.

C. The lay-off situation at Brookhaven is as follows:

1) If the FY 1983 budget is passed at the levels requested by the Administration, Brookhaven will lose 250 positions. This assumes that there will be no construction funds for the ISABELLE project.

2) If the DOE programs are funded by a continuing resolution at FY 1982 levels and BNL is also held at FY 1982 levels, we would lose about 450 positions. This consists of 300 positions in operations and 150 positions in the ISABELLE project. I have assumed that no construction funds for ISABELLE would appear in the continuing resolution. The impact of a continuing resolution on Brookhaven's programs extends beyond the reduction in force. It would cut deeply into one of our basic purposes, which is the operation of our large research facilities. The National Synchrotron Light Source (NSLS) became operational this year, and an increase of $2 million is needed for full operation and staffing. The Alternating Gradient Synchrotron (AGS) is at present running under capacity and the FY 1983 budget will provide for a 50% increase in running time. Similarly, the cost of operating the High Flux Beam Reactor will increase by about $1 million from FY 1982 to FY 1983 because of the increase of reactor power to 60 megawatts, with a higher neutron flux. In many cases we have already made commitments, in hiring and in materials, for these funds in FY 1983. These facilities are operated for the benefit of university and industry scientists, as well as for Brookhaven's research staff. Indeed, nearly 80% of the AGS and NSLS utilization is by outside researchers. A continuing resolution would have a disastrous effect, and it is difficult to see how we can manage in these areas, given the commitments we have already made.

The other side of the coin is found in some of our energy research programs. Some areas for which the President's budget eliminates funding in FY 1983 would benefit from continued funding at FY 1982 levels. We are then faced with the possibility of finding ourselves with funding in FY 1983 for programs for which we will have discharged the staff.

D. As stated above, the FY 1983 budget does contain important increases in funding for the operation of several of our major research facilities. Many of our research programs will be adversely affected because the funding level to be provided will not be sufficient to cover the effects of inflation.

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It is important to point out that we have made substantial progress in reducing our annual operating cost. For example, effective October 1, 1981, the allocated to BNL 25 megawatts of low-cost, nuclear-generated electric power. BNL consumes an average of 27 megawatts with peak demands up to 45 megawatts. The Long Island Lighting Company will continue to supply the balance of BNL's power requirements. This commitment by PASNY reduced the cost of electric power for FY 1982, alone, by $5,000,000 over that previously estimated. The arrangement with PASNY were executed on an interim basis. We are currently negotiating with PASNY for a long-term agreement. We have based our budget on the assumption that PASNY power will be continued, and, even at the reduced rate, we are estimating the average cost per kilowatt hour to increase 12.3 percent in FY 1983. The increase is due to rising fuel cost at LILCO, mandated safety changes at PASNY's Fitzpatrick Nuclear Plant, and increased wheeling charges.

We also instituted a hiring freeze last fiscal year because of the problems associated with the FY 1982 budget. This freeze has been kept in effect because of the continued uncertainty of the FY 1983 budget, and only absolutely essential positions, as for the operation of the National Synchrotron Light Source, are being filled. This is not the most satisfactory way of meeting our priorities, but it is forced on us by uncertainty.

Some of the specific impacts of the FY 1983 President's budget and the uncertainties confronting us, especially in regard to the funding of several of our applied research projects, are considered here in brief.

The FY 1983 budget for High Energy Physics will enable the AGS to run for approximately 30 weeks of scheduled operations, a 50 percent increase in experimental time over FY 1982. The budget also provides for an increased R&D effort on accelerator systems, including superconducting magnets for high energy physics construction projects. However, the total FY 1983 budget for the High Energy Physics Research effort at BNL is the same as the FY 1982 budget and will necessarily require further personnel reductions, as well as further cuts in essential materials and services. This will be achieved mainly by reduction in support staff and by sharply curtailing parts of the R&D effort. From the end of FY 1981 to the beginning of FY 1983 there will have been a 20% reduction in personnel involved in High Energy Physics research.

No construction funds are provided in the Presidential budget for ISABELLE in FY 1983. If this holds, conventional construction will cease and the site will be secured and vacated, except for work near the Service Building on a string of magnets and the refrigerator system. Approximately 150 people will be lost in the High Energy Physics work force. A large portion of this reduction must be by layoff and will result in the loss to the Laboratory of a valuable resource that has taken many years to recruit and train in advanced technologies.

The national FY 1983 Nuclear Physics budget includes a very small increase (3%) over FY 1982, but BNL faces a net reduction in heavy ion

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research. DOE has announced "initiation of phase-out activities at the Brookhaven Double MP Tandem." Present DOE plans are to complete phase-out of the Tandem program in FY 1986. The severe reduction in the Tandem budget for FY 1983 comes at a particularly inopportune time. The recently upgraded accelerator is running a record voltage of 16 megavolts and the heavy ion beams available are unique. User requests for the facility exceed available time by a factor of two. To meet the FY 1983 budget, a reduction in staff would be required at the Tandem, and a reduction of operating time of the facility by about 20% for FY 1983.

The reduction in programs in Life Sciences and Nuclear Medicine will mean a loss of about 20 employees. The FY 1983 General Life Sciences program was reduced by 12%. This reduction, when combined with the effects of inflation, will mean the termination of two research projects in our Biology Department and drastic cuts in their remaining research projects. If funding is not restored, or if we are unsuccessful in obtaining alternate sources of funding, this department may lose 15 employees (22% of those engaged in DOE-sponsored research). The FY 1983 budget for Nuclear Medicine Applications will not be sufficient to maintain the current staffing level nor the level of effort in the present DOE program. The level of support will mean a loss of about 5 scientific and professional employees. The decreased effort will seriously affect development of nuclear techniques to determine the composition of the body in health and disease, establishment of new modes of neutron capture therapy, research on enhancement of positron imaging, development of a multimode radionuclide medical imaging system, and the production of new radiopharmaceuticals for the research community. Because these program areas have lost staff members in FY 1981 and FY 1982, the projected loss of an additional 5 employees cannot be absorbed without serious impact on research productivity.

The FY 1983 Materials Sciences budget will provide for 312 days of operation of the High Flux Beam Reactor (HFBR) at 60 Mw. This is a significant increase in the level of support for the HFBR and is due to the extremely favorable report of the DOE Neutron Scattering Review Committee. Beginning in FY 1983 a major change will occur in the system of funding for the operation of the Reactor. The operating budget will be totally funded from the Materials Sciences program. In previous years the operating costs have been distributed to the various research programs on a prorated basis.

The construction phase of the National Synchrotron Light Source (NSLS) was completed in the first quarter of FY 1982. The accelerator/storage subsystem and the NSLS Vacuum Ultraviolet (VUV) beam lines are complete. The linear accelerator Booster Synchrotron injector combination is fully operational and operating regularly for VUV ring beam injection and injection studies of the x-ray ring. The VUV storage ring is also operational, and a beam of about 30 mA with a lifetime of about one-half hour is now regularly obtained. Research utilizing the VUV storage ring began during the second quarter of FY 1982.

We believe we have no choice but to proceed with the full development and utilization of these facilities. The risk is, of course, high, but the importance of the facilities forces us to take this chance.

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Budget reductions and uncertainties are most serious and severe in the Applied Research programs. The Laboratory has an intensive program underway to develop a new form of cable for the underground transmission of large amounts of electric power. The cable is made of new-developed superconducting materials operating at very low temperatures and gives promise of lower costs, energy saving and environmental benefits, especially in regions of high population density such as the Northeast. After more than ten years of work and expenditure of over $20 million, we have the major elements of a practical cable system in hand, completed a 100-meter long test facility, and we are now beginning the period of testing and demonstration of the cable.

The Presidential budget submitted last year for FY 1982 eliminated the project, but Congress restored the funding. Once again, the FY 1983 funding for the Superconducting Power Transmission Line project is zero, reflecting the phase-out of the DOE Electric Energy Systems program. An abrupt close-down in FY 1983 will leave much engineering evaluation data concerning the performance of the superconducting power transmission test facility still to be obtained. This is a unique facility which only came on-line in FY 1982. A revised request for $2,000,000 has been submitted, which would permit the full benefit to be reaped for the large development effort involved in building this facility. The revised request will allow the facility to be operated for about 25 weeks, during which time performance characteristics will be evaluated, and the project can be brought to an orderly conclusion.

In other applied programs such as Energy Storage Systems, Solar Energy Conservation and Fossil Energy, the uncertainties as to whether or not Congress will restore funding or adopt the Administration's plan to close out these programs relegates our planning function to a guessing game.

Do we close out the projects, destroy the research progress already made and make difficult or impossible reaction to a restoration of funding by Congress, or do we continue a strong scientific program and risk exhausting our funding and facing unbudgeted termination costs? These are some of the problems Management faces. In previous years, the answers were more predictable, as we were able to read the signs and had guidance from the Administration. Today, we guess and try to develop alternate plans in case we guess wrong.

E. I anticipate several problems should rehiring of personnel become necessary after a reduction in force.

Brookhaven competes with universities and industries for young people. Erratic funding patterns, rapid changes as to what kinds of research are supported at the Laboratory and general doubts about long-term stability puts us at a great disadvantage in recruiting and in keeping our best staff members.

There will be a decrease in experience level and quality of personnel. The best of the people involved in the reduction in force, as well as some very good people not affected but attracted away from the Laboratory during the period of uncertainty will be unavailable when we try to restaff.

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The direct cost (severance pay and related costs) associated with the most recent layoff of 74 people was $1,200,000. This is the identifiable expense and does not include costs associated with morale and productivity declines due to the disruption in the research program.

The budgetary uncertainties are accompanied by changes in programmatic direction resulting from new philosophies for the national laboratories. At Brookhaven we have tried to remain close to our primary purpose of providing major facilities for researchers, facilities which are too big for an individual company or university to afford. We carry out basic and applied research using these facilities, and we respond, within our expertise, to national requirements. Some years ago, we were under heavy pressure to make our research effort "relevant". We responded to the best of our ability. Now we find ourselves chastised for that response. The effect of these changes in direction can be seen in the accompanying figure, which shows the employment history of the Laboratory since 1960. That the Laboratory has continued to produce some outstanding research with such fluctuations in employment is remarkable. How much more could be produced if our attention could be directed solely towards that research?

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COMMITTEE ON SCIENCE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515
(202) 225-6371

May 13, 1982

Dr. Martin Blume
Associate Director
Brookhaven National Laboratory
Upton Long Island, NY 11973

Dear Dr. Blume:

We are pleased to invite you to testify at a joint hearing on Wednesday, June 2, 1982 on the "Impacts of Budget Uncertainty on the DOE National Laboratories." The hearing will be held before the Subcommittees on Energy Development & Applications and Energy Research & Production at 1:30 p.m. in Room 2318 of the Rayburn House Office Building.

The purpose of the hearing is to examine the effects of the national laboratories and the DOE field management structure resulting from the present uncertainty surrounding the FY 1983 budget for the Department. We would appreciate it if your testimony would address the following issues:

A. o What actions, if any, have been taken to date at Brookhaven National Laboratory concerning potential reductions in force, i.e., notifications, assessment activities, etc.

B. o What is the final date by which management decisions must be made to take action on any reductions in force prior to the beginning of FY 1983?

C. o What is the nature of the layoff situation at Brookhaven National Laboratory if -

1) an FY 1983 budget is passed at the levels requested by the Administration;

2) DOE programs are funded by a continuing resolution at FY 1982 levels.

D. o What effect is the present budget situation having on the implementation of program management; that is, in what ways are the pace and schedules of ongoing research and development projects being impacted by the uncertainty of future funding? Please discuss particular programs, where appropriate, as well as overall laboratory management.

E. o What problems do you anticipate encountering should re-hiring of personnel be necessitated after a reduction in force? What are the associated costs of personnel terminations (e.g., severance pay,

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etc.) and of such re-hiring? Similarly, what is the nature of the dispersal of key research teams who are targeted for termination because of funding levels contained in the Administration's proposed FY 1983 budget?

In addition to the above, we would welcome the discussion of any related issues that you may consider significant.

Although your written statement may be as long as you deem necessary to address the topic, we ask that you limit your oral presentation to 10 minutes so that there will be sufficient time for the Members to ask questions.

The Subcommittee will need sixty copies of your prepared statement 48 hours before the time of the hearing for advance distribution to the Subcommittee Members and staff. An additional seventy-five copies of your statement will be needed for distribution to the press at the time of the hearing. A brief biographical sketch suitable for inclusion in the hearing record should be attached. Please direct copies to the attention of Mrs. Mary Bly, Subcommittee Hearings Coordinator, Committee on Science and Technology, Room B374 Rayburn House Office Building, Washington, D.C. 20515.

If you have any questions regarding this hearing, please contact Carolyn Crawford Greenfeld, ER&T Subcommittee Deputy Staff Director for Administration, at (202) 225-9452

Sincerely,

DON FUQUA
Member of Congress

Marilyn L. Bouquard
MARILYN L. BOUQUARD
Member of Congress

DF/MLB:Cma

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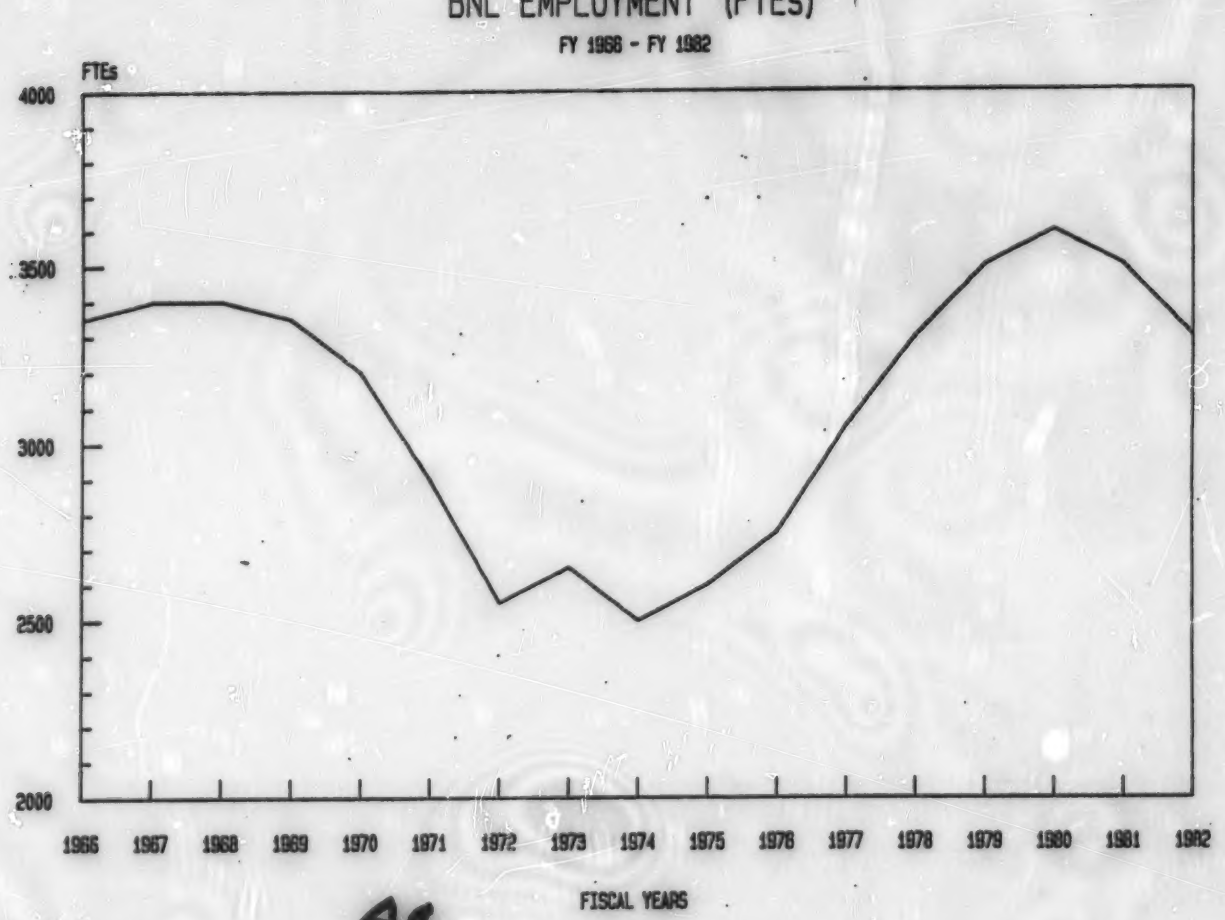

Biographical Data

Martin Blume is Associate Director of Brookhaven National Laboratory, Upton, NY. He received his bachelor's degree from Pri..ceton and his Ph.D. in theoretical physics from Harvard. He has been at Brookhaven since 1962 and was appointed Associate Director of the Laboratory in 1981. He is Chairman of the Solid State Sciences Committee of the National Academy of Sciences/National Research Council. He received the E. O. Lawrence Award for physics in 1981 for his research in theoretical solid state physics.

Mr. FUQUA. Dr. Shirley.

Dr. SHIRLEY. Thank you for the opportunity to testify.

In addition to serving as Director of Lawrence Berkeley Laboratory since 1980, I am also professor of chemistry at the University of California, Berkeley, and have served on the Berkeley faculty since 1960. Thus I view American science from the mutually supportive perspectives of the universities and the national laboratories.

Lawrence Berkeley Laboratory is unique among the national laboratories in being effectively colocated with the campus of a leading research university. It is the oldest of the national laboratories, if institutional predecessors are counted, having been founded as the University of California Radiation Laboratory by Ernest Lawrence in 1931 to provide an environment for developing his newly invented cyclotron.

In the course of this development, Lawrence and coworkers also developed what has come to be known as big science; that is, a modern style of research in which large interdisciplinary teams of scientists attack major research problems which could not be addressed by only one or a few of them working alone.

In the course of developing Lawrence Berkeley Laboratory, Lawrence and his associates answered unequivocally in the affirmative the question of whether national laboratories or other organized research institutes are needed to pursue effectively certain types of basic problems in scientific research.

By combining the technical and management capabilities and the organizational flexibility of a national laboratory with the intellectual stimulation and renewal of a university, Lawrence Berkeley Laboratory has been able to compile a uniquely distinguished record of contributions to basic science. The laboratory's research programs include the activities of 150 Berkeley faculty members and the thesis research of nearly 600 resident graduate students.

Thus the laboratory contributes more to the pool of highly trained manpower in science and engineering in energy research than does any other institution. The scope of the laboratory's programs has broadened greatly in recent years, and it is truly a multiprogram national laboratory covering activities throughout the

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range of basic energy research. Appendices give a statement of the role of Lawrence Berkeley Laboratory, a brief listing of selected achievements during its first 50 years, and documentation of the extraordinary recognition which its scientists have received.

While the laboratory's programs have been seriously impacted by the budgetary austerities of recent years, they are still not only viable but strong. As you know, Dr. Keyworth has stated the need for redefinition of the roles of the DOE national laboratories. In my view, such a redefinition is indeed necessary, and I look forward to the ongoing reviews of Federal laboratories which will identify not only their similarities, but their unique capabilities and differences.

As the director of Lawrence Berkeley Laboratory, I believe that our laboratory has a great deal to offer in meeting national needs for both basic research and technical manpower. I look forward both to participating in the ongoing definition of the laboratory's role and to establishing a firm base for support of its basic research programs in the coming years.

Let me now turn to the specific questions asked by the committee. I shall restate each question and follow it by my answer.

What actions, if any, have been taken to date at Lawrence Berkeley Laboratory concerning potential reductions in force, that is, notifications, assessment activities, et cetera?

Major reductions in force have already been implemented at Lawrence Berkeley Laboratory during the period March 1981 through April 1982 in order to fit the laboratory's work force to the severely reduced fiscal year 1982 budget. From an initial work force of 3,100 full-time equivalent [FTE] employees, the laboratory's work force has been decreased by 598, or 19 percent. Thus LBL is by far the hardest hit of the national laboratories, an unfortunate result in view of its important role in basic research and graduate education.

This outcome documents a lack of safeguards for the institutional health of DOE laboratories. The reduction in force was structured by laboratory management to permit a smooth transition into fiscal year 1983 at a constant or slighty reduced program level. While laboratory management has been actively engaged in assessment activities relative to the fiscal year 1983 budget since the Administration budget became available in February 1982, no further action has been taken as yet because of the continuing uncertainties in the fiscal year 1983 budget. As the budget is developed, suitable adjustments will be made as needed.

What is the final date by which management decisions must be made to take action on any reductions in force prior to the beginning of fiscal year 1983?

There is no single final date. As a general rule, major changes in the ongoing funding level must be known by April 1 in order to make adjustments that will allow smooth entry into the new fiscal year without loss of efficiency. This leadtime is necessitated by the need to review proposed layoff schedules for compliance with regulations, including equal opportunity; by the need to give notice from 2 weeks to 3 months prior to termination of employment; and by the need to provide severance pay to terminated employees.

Viewed from another perspective, the deeper the cuts and the later they are announced, the greater will be the disruption in the laboratories and the smaller will be the return to the Federal Government for its research dollars.

To add a sense of scale to this response, it would be essential to know by June 15 if the fiscal year 1983 budget would be less than the dollar value of the fiscal year 1982 budget, in order to avoid significant extra loss due to inefficiency.

What is the nature of the layoff situation at Lawrence Berkeley Laboratory if:

First, a fiscal year 1983 budget is passed at the levels requested by the administration;

Second, DOE programs are funded by a continuing resolution at fiscal year 1982 levels.

First, if Congress passes fiscal year 1983 budget at the level requested by the administration, the various substantial reduction in energy technology programs will result in a loss of about 500 jobs at Lawrence Berkeley Laboratory. The cumulative loss in positions between 1981 and 1983 would then be in excess of 1,000 FTE's, or approximately 35 percent of the work force. With a reduction of this magnitude in a period of only 2 years, all of the laboratory's programs would be impacted, including the ongoing support of graduate students doing thesis work in the energy research area.

Second, funding of DOE programs at fiscal year 1982 levels on a continuing resolution would permit survival of most of the laboratory's programs, albeit at a subsistence level, given that 19-percent of the work force was already lost in fiscal year 1982. The work force would continue to decline by a percentage about equal to the inflation rate. Some of this decline could be dealt with by attrition.

What effect is the present budget situation having on the implementation of program management; that is, in what ways are the pace and schedules of ongoing research and development projects being impacted by the uncertainty of future funding? Please discuss particular programs, where appropriate, as well as overall laboratory management.

The present budget situation is having a serious effect on program management. From the laboratorywide viewpoint, a major responsibility of laboratory management during the 19-percent reduction in force of the past 14 months has been to cut services and consolidate programs in such a way as to minimize the damage to the laboratory's basic structure.

The direct effect of reductions in program support is relatively straightforward: Those programs are either reduced in scope or terminated. The indirect effects are more insidious; with cuts of the magnitude experienced by LBL the entire support base of the laboratory is weakened. Because a major research laboratory has certain fixed general costs which must be supported from the total program funds, the effect of program reduction is exacerbated in the general support areas. Thus the cost and efficiency of all programs are adversely affected.

As a particular example, the most urgent item is the Bevalac. This is the national heavy ion facility at Lawrence Berkeley Laboratory. Following completion of the uranium upgrade project, LBL scientists succeeded in accelerating uranium for the first time in

May. This machine will have to operate on much shorter schedules because of limited funding.

In fiscal year 1982 the support level for this accelerator had to be reduced from 206 to 168 full-time equivalents for budgetary reasons. This has impaired the efficiency of operation to a point where it is no longer feasible to make further reductions in force.

At the same time the power cost for LBL has increased between 1980 and 1982 from 3 cents per kilowatt-hour to 8 cents per kilowatt-hour. No additional funding has been provided to offset this dramatic cost increase.

In addition, LBL has been unique among Federal laboratories in the San Francisco Bay area in having no low-cost Federal power allocation, a situation we are trying to change. Late last month the University of California signed a new contract with Pacific Gas & Electric Co. which will allow LBL access to Federal power. We are now working with the Department of Energy to implement an allocation of power to LBL. Until this goal is realized, we have no alternative to shortening our running schedule by about 2 weeks for each missing megawatt of Federal power.

In addition to its severe impact on the national heavy ion physics program, shortening the running schedule will seriously jeopardize our highly successful cancer radiotherapy program, which has recently shown several dramatic successes.

Lawrence Berkeley Laboratory has requested access to Federal power from the Western Area Power Administration [WAPA]. If this request is unsuccessful, the Bevalac facility will have to be shut down for nuclear physics research before mid-June. Exploitation of this unique new uranium beams capability will be delayed.

The schedule of the cancer therapy program at the Bevalac is in similar jeopardy: however LBL management will exert all efforts to continue operations beyond mid-June. If no WAPA allocation becomes available, the curtailment of this program in fiscal year 1982 could result in the loss of 500 patient treatment periods as well as the delay of vital related research.

What problems do you anticipate encountering should rehiring of personnel be necessitated after a reduction in force? What are the associated costs of personnel terminations—for example, severance pay, et cetera—and of such rehiring? Similarly, what is the nature of the dispersal of key research teams who are targeted for termination because of funding levels contained in the administration's proposed fiscal year 1983 budget?

When a reduction in force is followed after some interval of time by an increase in the size of the work force to approximately the previous level and composition, the costs so incurred take several forms.

Laboratory personnel policies require that a staff scientist be given 3 months notice. During that interval the employee may not perform at full efficiency. For long-term employees, personnel practices require severance pay of approximately 1 week per year of service. Thus the laboratory and the Federal Government have lost up to 6 months of salary costs for such an employee for little or no return.

Realistically, another employee hired subsequently as a replacement will require an induction period of on-the-job training of typi-

cally a few months before performing at peak efficiency. Thus an unusually high rate of employee turnover can be very costly and should be avoided when possible.

Even more important is the preservation of key research teams, sometimes built up over a period of years or decades, which in some instances can probably never be replaced. At Lawrence Berkeley Laboratory the fate of three such teams is unresolved at this time. Our energy efficient buildings group has made major contributions to building energy conservation during the past few years. Our electrochemistry group in the energy storage area is unique in the country in its research contributions to electrochemical engineering and its training of graduate students in this area.

Finally a skilled team of hydrogeologists in Lawrence Berkeley Laboratory has made seminal contributions to the characterization of suitability of rock-types for nuclear waste isolation repositories. We hope to be able to retain the expertise represented in these groups and built up over the years.

I would be pleased to answer questions.

[The prepared statement of Dr. Shirley follows:]

TESTIMONY OF DAVID A. SHIRLEY, DIRECTOR OF
LAWRENCE BERKELEY LABORATORY BEFORE THE SUBCOMMITTEES
ON ENERGY DEVELOPMENT AND APPLICATIONS AND
ENERGY RESEARCH AND PRODUCTION
(June 2, 1982)

My name is David Shirley. I am Director of Lawrence Berkeley Laboratory, a position in which I have served since 1980. I am also Professor of Chemistry at the University of California, Berkeley, and have served on the Berkeley Faculty since 1960. Thus I view American science from the mutually supportive perspectives of the Universities and the National Laboratories.

Lawrence Berkeley Laboratory is unique among the National Laboratories in being effectively co-located with the campus of a leading research university. It is the oldest of the National Laboratories if institutional predecessors are counted, having been founded as the University of California Radiation Laboratory by Ernest Lawrence in 1931 to provide an environment for developing his newly invented cyclotron. In the course of this development, Lawrence and co-workers also developed what has come to be known as "big science"; that is, a modern style of research in which large interdisciplinary teams of scientists attack major research problems which could not be addressed by only one or a few of them working alone. In the course of developing Lawrence Berkeley Laboratory, Lawrence and his associates answered unequivocally in the affirmative the question of whether National Laboratories or other organized research institutes are needed to pursue effectively certain types of basic problems in scientific research.

By combining the technical and management capabilities and the organizational flexibility of a National Laboratory with the intellectual stimulation and renewal of a university, Lawrence Berkeley Laboratory has been able to compile a uniquely distinguished record of contributions to basic science. The Laboratory's research programs include the activities of 150 Berkeley faculty members and the thesis research of nearly 600

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resident graduate students. Thus the Laboratory contributes more to the pool of highly trained manpower in science and engineering in energy research than does any other institution. The scope of the Laboratory's programs has broadened greatly in recent years, and it is truly a Multi-Program National Laboratory covering activities throughout the range of basic energy research. Appendices give a statement of the role of Lawrence Berkeley Laboratory, a brief listing of selected achievements during its first fifty years, and documentation of the extraordinary recognition which its scientists have received.

While the Laboratory's programs have been seriously impacted by the budgetary austerities of recent years, they are still not only viable but strong. As you know, Dr. Keyworth has stated the need for redefinition of the roles of the DOE National Laboratories. In my view such a redefinition is indeed necessary, and I look forward to the ongoing reviews of Federal Laboratories which will identify not only their similarities but their unique capabilities and differences. As the Director of Lawrence Berkeley Laboratory I believe that our Laboratory has a great deal to offer in meeting National needs for both basic research and technical manpower. I look forward both to participating in the ongoing definition of the Laboratory's role and to establishing a firm base for support of its basic research programs in the coming years.

Let me now turn to the specific questions asked by the Committee. I shall restate each question and follow it by my answer.

<u>What actions, if any, have been taken to date at Lawrence Berkeley Laboratory concerning potential reductions in force, i.e., notifications, assessment activities, etc.?</u>

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equivalent (FTE) employees, the Laboratory's work force has been decreased by 598, or 19%. Thus LBL is by far the hardest-hit of the National Laboratories - an unfortunate result in view of its important role in basic research and graduate education. This outcome documents a lack of safeguards for the institutional health of DOE Laboratories. The reduction in force was structured by Laboratory management to permit a smooth transition into FY 1983 at a constant or slightly reduced program level. While Laboratory management has been actively engaged in assessment activities relative to the FY 1983 budget since the Administration budget became available in February, 1982, no further action has been taken as yet because of the continuing uncertainties in the FY 1983 budget.

What is the final date by which management decisions must be made to take action on any reductions in force prior to the beginning of FY 1983?

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- When a reduction in force is followed after some interval of time by an increase in the size of the workforce to approximately the previous level and composition, the costs so incurred take several forms. Laboratory personnel policies require that a Staff Scientist be given three months notice. During that interval the employee may not perform at full efficiency. For long-term employees, personnel practices require severance pay of approximately one week per year of service. Thus the Laboratory and the Federal Government have lost up to six months of salary costs for such an employee for little or no return. Realistically, another employee hired subsequently as a replacement will require an induction period of on-the-job training of typically a few months before performing at peak efficiency. Thus an unusually high rate of employee turnover can be very costly and should be avoided when possible.

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I would be pleased to answer questions.

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Appendix 1.

THE ROLE OF THE LAWRENCE BERKELEY LABORATORY
(From the LBL Institutional Plan, October, 1981)

The Lawrence Berkeley Laboratory's major role is to conduct research programs that are appropriate for an energy research laboratory but not suited to the program goals or resources of a university campus. Thus the development and utilization of large experimental facilities is emphasized, and the interdisciplinary team approach to research is stressed. Lawrence Berkeley Laboratory also supports university-based research nationwide by providing major national facilities--the SuperHILAC, Bevalac, and the National Center for Electron Microscopy--that are readily accessible to qualified investigators.

The Laboratory is unique among the National Laboratories in being effectively co-located with the Berkeley Campus of the University of California. The Laboratory serves an important national need by conducting basic research in an environment that combines academic quality and renewal with National Laboratory R&D management experience and facilities. Faculty in scientific and engineering disciplines are carefully selected to augment Laboratory staff in performing research in technology base areas chosen to advance DOE program goals in nuclear and energy research.

As a unit of the University of California, Lawrence Berkeley Laboratory has an unmatched role in the training of the next generation of scientists and engineers for careers in advanced energy research and technology. Over 500 resident graduate students conduct thesis research at the Laboratory, and many more use LBL facilities or perform collaborative research. Participation in DOE-supported energy research programs at LBL provides these students with skills in high demand by energy industries. The flow of Berkeley Ph.D.s to industry is one of many forms of technology transfer that allows Lawrence Berkeley

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Laboratory to maintain close and supportive relationships with industry. The Laboratory-industry boundaries are defined by LBL's focus on long-term, high-risk generic research particularly suited to the Laboratory's facilities and capabilities, which are not duplicated in industrial laboratories. At the same time, the close contact of LBL with industry ensures the relevance of its generic energy research.

The Laboratory's long-range plan for the period 1981-2000 includes the following components as elements of the LBL role.

In high-energy physics the LBL role has two major components. As a detector laboratory, LBL brings resources and skills to bear on developing detectors of the future, such as the highly-successful Time Projection Chamber, in collaboration with consortia of universities. As a resource laboratory, LBL carries out long-range research and development, as in the 10-Tesla Magnet Program, and can participate in planning the national high energy physics program.

Relativistic heavy-ion physics is rapidly evolving as the major frontier of nuclear science, and is attracting increasing interest in high-energy physics. Continued scientific advances at the upgraded Bevalac would establish a need for further exploration of this frontier by means of a higher-energy machine such as VENUS in the late 1980s.

The intrinsic advantages of heavy-ion radiotherapy and the importance of heavy-ion radiobiology are well-understood. In 1980 a proposal for a major Medical Accelerator Design Study was submitted to NIH. The proposal was funded and the study is under way.

The LBL Materials Sciences program in alloy design, mechanical metallurgy, and ceramic science are consolidating around the new National Center for Electron Microscopy. The Material Sciences and Chemical Sciences programs support LBL's pre-eminent surface science and catalysis

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research, while Chemical Sciences supports LBL's unique chemical dynamics and its new thrust in the use of modern laser techniques to reveal temporal aspects of photobiology and photochemistry.

In the Magnetic Fusion Energy program, LBL's success in positive-ion neutral beams has led to a long-term program in plasma heating. The emphasis has shifted to negative-ion neutral beams, and radio-frequency heating is also under study.

Several LBL programs have utilized synchrotron radiation at the Stanford Synchrotron Radiation Laboratory (SSRL) since 1974. Unique insertion devices based on SmCo magnets have been built at LBL and installed at SSRL to produce superior synchrotron radiation sources. The Laboratory's role in synchrotron radiation research will grow in th 1980s.

The Laboratory's expertise in geohydrology addresses national needs in nuclear waste isolation and in geothermal reservoir research. The LBL group is a national resource for solving future nuclear and energy research problems in th geological realm.

The LBL Energy Efficient Buildings program is a national asset, as is the LBL Elecrochemistry program. Both of these major programs fill national needs in long-range energy research and fulfill part of LBL's role.

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Appendix 2.

Selected Accomplishments of the Lawrence Berkeley Laboratory

- Invention of the cyclotron, the linear accelerator, the synchrotron and continuing contributions to new particle accelerator concepts and construction projects (1929-present).
- Creation and identification of 15 new chemical elements, including plutonium, by nuclear synthesis (1940-1976).
- Discovery of the antiproton and numerous excited states of the fundamental particles (1955-1965).
- Development of one of the world's major centers of heavy ion nuclear physics research by (a) adapting the 88-Inch Cyclotron to the acceleration of heavy ions (1971), (b) connecting the SuperHILAC heavy ion accelerator to the Bevatron to make the Bevalac (1972), and (c) improving the Bevalac (1981) to provide acceleration of ions as heavy as uranium to multi-billion-volt energies, unavailable anywhere else in the world.
- Operation of SuperHILAC, Bevalac, and 88-Inch Cyclotron accelerators as national facilities for nuclear physics and biomedical research (1972-present).
- Founding of a National Center for Electron Microscopy equipped with instruments of highest energy and highest resolution (1980-present).
- Founding of the science of nuclear medicine (1935), development of instruments and techniques for the beneficial use of gamma and particle radiations (1935-present), and exploration of use of heavy ions for treatment of cancer.
- Contributions of discoveries and developments in High Energy Physics: Discovery of the ψ family of particles, charmed particles, design and construction (with SLAC) of the PEP accelerator, design and construction of massive detector systems, Mark I and II, Time Projection Chamber superconducting magnet design, stochastic beam cooling (1974-present).
- R&D on injection of particles into fusion reactors for heating and fueling; design and construction of neutral beam injectors for LLNL's IIx-2B, Princeton's Tokamak and General Atomic's Doublet III (1974-1981).
- Large scale field experiment in iron mine in Stripa, Sweden to measure rock characteristics of significance for underground storage of nuclear wastes (1976).
- Development of instruments now used in hundreds of university and corporation laboratories for precise measurement of gamma radiation, X-rays, nuclear particles, chemical elements, chemical compounds, magnetic field strengths and other properties (1950-present).

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Appendix 3.

RECOGNITION OF LBL SCIENTISTS

1. Eight Nobel Laureates over the years.

2. Thirty-two memberships in the National Academy of Science or National Academy of Engineering among the present staff.

3. Citations. In October, 1981, the Institute of Scientific Information published a list of the 1000 scientists whose work over the period 1965-1978 was most cited. There are 32 National Laboratory scientists on the list. Of these, 14 are at LBL.

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Biographical sketch.

DAVID A. SHIRLEY

David A. Shirley was chosen by the Regents of the University of California on April 1980 to be the Director of Lawrence Berkeley Laboratory, a Multiprogram National Laboratory operated by the University of California for the Department of Energy.

After receiving his B.A. degree from the University of Maine in 1955 and his doctorate from the University of California at Berkeley in 1959 he joined the faculty of the Department of Chemistry, University of California, Berkeley, reaching the rank of Professor in 1967 and serving as Chairman 1971-1975.

At the Lawrence Berkeley Laboratory he did research on low-temperature nuclear orientation, magnetic resonance, gamma-ray angular correlations, and Mossbauer spectroscopy, with the unifying theme of studying the structure of matter through nuclear properties. More recently his research interests have been on the study of matter by photoelectron spectroscopy. Since starting in 1965 as the first American laboratory to study x-ray photoemission, his research group has played a role in many aspects of the development of this field. He was appointed as Associate Director and Head of the Materials and Molecular Research Division in 1975, a post he held until his appointment as Director in 1980.

Dr. Shirley is a member of the National Academy of Sciences and the American Academy of Arts and Sciences, a Fellow of AAAS and the American Physical Society. He is the recipient of the E.O. Lawrence Award, an Sc.D. honoris causa from the University of Maine, and other awards. He is the author or co-author of 268 research papers.

He was born in North Conway, New Hampshire. He is married to Virginia Schultz and they have five children.

May 1982

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Mr. FUQUA. Thank you very much, Dr. Shirley.

We will now be pleased to hear from you, Dr. Postma.

Dr. POSTMA. Thank you for your invitation, although it is a topic I do not enjoy discussing.

R&D itself is uncertain. It is risk taking. That is what makes it fun. But the budget process associated with R&D has hardly been fun in the last few years.

Let me recount to you some of the specific things that have happened. In the last 20 years, out of 234 appropriations bills, 198 have been late in the fiscal year. Approximately 32 percent between 1 and 3 months late, 34 percent between 3 and 6 months late, and 4 percent between 9 and 12 months late. So dealing with uncertainty is not new in the last 20 years. In fact, the energy and public works bill probably holds the record of being the least late, being late only 16 out of 20 times. In the last 5 years, we have had 6 continuing resolutions out of 10 possible appropriations bills, and last year, of course, we did not get a continuing resolution until mid-December.

These kinds of uncertainties make it very difficult to know exactly what is one's budget and how to deal with it, particularly when the budget sharply decreases.

My vocabulary has been enriched in the last few years because in addition to those kinds of uncertainties, we are dealing with strange words like rescissions, deferrals, and transfers from one agency to another. Last year we had the wonderful privilege of a 12-percent cut 6 days before the fiscal year began, which Congress managed to get down in the range of 2 to 4 percent, which we could deal with on a far easier basis.

In addition to those uncertainties, broad national energy goals have been established and then abolished. The Federal energy role is always under question and always changing with respect to R&D and the role of the national laboratories in the whole process seems never to be entirely agreed upon and this committee had hearings last year about this time with respect to that.

This committee is to be complimented for taking action to prevent excesses as they have occurred, both in the rather drastic upswings that seemed unreasonable, as well as the actions now being considered with respect to ameliorating some of the problems with rather sharp cuts.

Now how do we arrive at budgets and how do we make accommodations?

Last year the Oak Ridge National Laboratories submitted something like 1,100 requests to 115 different offices within the Department of Energy. Thus we have to track 1,100 different tasks during the entire budget process and this budget process now lasts for a whole year.

Testimony has to be rendered before 6 authorizing committees, 4 appropriations committees and conference committees, and I understand somewhere between 33 and 35 subcommittees. From those actions we, as managers of the laboratory, try to guess at what the budget will be, so each of the 1,100 projects has associated with it a range of what the budgetary actions are likely to be by both the Administration and by Congress.

We try to gather that amount of information and then to make the kinds of judgments about what actions we have to take with respect to personnel.

We do have a reasonable understanding of the budget, even though it is continually evolving during the year. Last year we had to lay off 200 people. We reached our decision in much the same way we did this year and in about the same kind of time scale and we took no further action because our guesses were approximately right for the rest of the fiscal year.

On the other hand, if one waits too long to take action, then the problem is made worse, as mentioned by several of my colleagues, because you may be deep into the fiscal year before you know what the budget is and, therefore, the cuts have to be made greater in order to accommodate the severance pay and the salaries that have already been paid during that part of the year that has already gone by.

We also have to give employees adequate notice. By our policies they have to be given at least 1 month, but we try to give 2 to 3 month's notice. Those actions should be completed by the end of the fiscal year, the present fiscal year, so we can pay the termination costs and also for those affected people to have an opportunity and enough leadtime to be able to find jobs elsewhere.

Like Los Alamos, Oak Ridge is not near a large metropolitan area. We share with Los Alamos the problem of being in a somewhat isolated area, so when actions are taken people do not get into their car and go down the freeway to another place where they can find employment. They must lift up their families, sell their homes, and leave, which makes the whole dislocation far more traumatic.

This year we have already announced a voluntary reduction in force. We have already announced that we will have to reduce by approximately 400 people. The announcement was made after a preliminary analysis of the President's budget in February and was in the Oak Ridger with the statement of approximately 500. Through further knowledge, we have been able to reduce that to about 400. We anticipated that approximately 125 people will leave voluntarily. Another 100 people will be transferred or will leave because they are disgusted with the situation. Many of them will have transferred to other plants within the Oak Ridge area that may be growing and the rest, approximately 175, will have to be given notices of termination.

This is extremely hard because these are people whose performance has been very good but whose programs are being terminated because of the vagaries of the budget process.

Last year we lost 200, as I mentioned earlier, as well as another 100 who left by attrition during the course of the year, so that by the end of this year we will have lost approximately 700 people in the last 2 years.

The largest programmatic impact area of the President's budget is that of biomedical and life sciences. This is an area where there is little precedence on which to act because it apparently results from a drastic philosophical and policy change within the Department of Energy and OMB. In contrast, we have seen for the last 5 years, the Administration terminate the HTGR program, but Congress has restored the funding. Therefore, there is precedence to

understand what might happen and our guesswork is a compromise between the agencies and what the Congress might do. But in the biomedical area, it is harder to know what to do.

We had to terminate 57 people last year and this year we will have to terminate 82. Our biomedical sciences area will have been reduced by 50 percent over the last 2 years. That is on top of a transfer by the Department of Energy to EPA of $14 million a few years ago and now all the EPA funds have disappeared as well. Other areas are affected. I can go through those in detail in the questioning, if desired.

Apart from the personal trauma associated with these changes, the intangible problems that arise are in the area of risk-taking. R&D and the national labs are prominent for their ability to take risks. This requires stability in funding, so people know they can take risks and fail and come back again; they have a base on which to depart on another risk-taking venture. When the stability disappears as it has in the last few years, people will be more reluctant to take those risks.

I would like to conclude by indicating areas in which things might be improved. Other countries have multiyear funding for research and development, some as long as 5 years, in which the next 2 years are almost completely certain and the third, fourth, and fifth years are the ones subject to change. That would lend stability to the R&D process and give us time to make evolutionary changes. That is probably not possible. A variant is to allow carryover money which is possible when budget outlays are changed each year to match budget authority. It occurs in a large number of DOE programs, particularly those in fossil, conservation, solar, and geothermal. It has not been possible in the areas that made the transition from the AEC. However, Congress can act and make that possible.

The second recommendation is for quicker action. I know how difficult that is. When the fiscal year was changed by 3 months several years ago, in 1976, it was to allow quicker action to take place so that our budget year would become more certain. That has not happened.

Finally a third idea that might be looked at is the setting aside of special funds within the Department of Energy or within the laboratories so that, when these uncertainties drag on for many months, there is a special fund out of which termination costs and salaries could be paid for those things over which we have no control but which is basically a dispute between the Congress and the Administration over what is the proper course of action. That would seem to be a possibility.

[The prepared statement of Dr. Postma follows:]

TESTIMONY BEFORE THE SUBCOMMITTEES ON ENERGY DEVELOPMENT AND APPLICATIONS AND ENERGY RESEARCH AND PRODUCTION OF THE COMMITTEE ON SCIENCE AND TECHNOLOGY U. S. HOUSE OF REPRESENTATIVES

June 2, 1982

Herman Postma, Director
Oak Ridge National Laboratory*
Oak Ridge, Tennessee 37830

I am Herman Postma, Director of the Oak Ridge National Laboratory (ORNL). This Department of Energy, multiprogram laboratory is operated by Union Carbide Corporation and has been deeply involved in energy and environmentally related research for several decades. During that time, it has experienced several ups and downs as energy policies in this country shifted.

I am here at your invitation to testify on the impacts of budget uncertainty on the Oak Ridge National Laboratory. However, it is a topic that I hardly enjoy discussing because of the severe programmatic and personnel impacts which the budget process and its uncertainties have created, particularly during the last two years.

Before I get into details, let me describe an "ideal world" so that we have some common basis for understanding the differences. For research and development (R&D) on energy and its associated environmental problems to be efficiently carried out, broad national goals are established. Following that, the government's role and the budget for implementing these goals are developed. Then, clearly defined objectives and programs are evolved for the federal laboratories. The result would be research and development programs that have importance, breadth, depth, and stability. Other countries have done this in spite of vast changes in government philosophy and have maintained a coherent viewpoint toward solving their energy problems. The most recent and extreme example is that of the Mitterrand government in France.

However, in this country, a somewhat different approach is taken to energy R&D. Broad national goals are established, then abolished; the federal role is always under question and it is always changing; the role of the national laboratories in the whole process is never entirely agreed upon; and laboratory programs are created in patchwork fashion as a consequence. The resulting lack of stability for research and development prevents the laboratories, as well as the private sector, from carrying out work in the most efficient manner.

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However, this Committee is to be commended for recognizing the fragility associated with performing R&D and that stability, foresight, and planning are essential if R&D is to have the kind of impact we all desire for our nation's economy and competitive world stance, as well as the same type of impact it has in other countries. Over the years, the Committee has been steadfast in its concerns about excesses in some areas of R&D but has now focused on the rapid declines which are evident or envisioned for the future that may harm R&D in yet other ways. Because this Committee understands that a concerted approach is vital to solving our energy problems and that the nature of R&D requires consistency in planning, we have been able to reduce at least some of the fantastically large uncertainties. However, many remain and I wish to discuss some of the circumstances surrounding these uncertainties, make comparisons, and review the resultant impacts that were considered prior to the recently announced decision to reduce staff, which ORNL has begun to implement.

In the past, an agency developed its budget according to guidelines of the President and the Office of Management and Budget (OMB) (as is still done). For AEC programs, a joint Congressional committee existed, which had the power of authorization and appropriation, to quickly and clearly establish a budget for the coming year. But now we find that the energy and environmentally related R&D budget must be considered by six authorization committees, four appropriation committees, and a conference committee. In addition, I understand that somewhere between 30 and 35 subcommittees exist that have some input to the authorization/appropriation process. After that, the budget must go through various bill formulations before subsequent modification by the President. Because the process itself involves more people and the amount of input is much greater, the time required for completion is longer. Thus, greater uncertainty is introduced.

In addition, last year the Oak Ridge National Laboratory submitted approximately 1100 requests to the Department of Energy to make up the Laboratory's entire budget. These budget submissions were sent to 115 different offices within DOE. In assembling its total requests and justifications for work to be included in the submission to OMB, DOE necessarily melded ORNL's requests with those from the many other universities, laboratories, and industries. After the Presidential announcement of the budget, OMB made decisions that were contained in both the President's State of the Union and budget messages. We then obtained, separately through the many different DOE program offices, informal information about what parts of the President's budget were expected to be passed and the areas where we might expect funding. So, in essence, to determine what the budget of the Laboratory might be in FY 1983, we must follow approximately 1100 projects with the associated wide ranges of possible funding that result from the uncertainty of Presidential allocations and Congressional approvals. Then begins the authorization and appropriation process which, of course, you know quite well. However, in the last five years, that process has not been carried to completion. We have had authorization, appropriation without authorization, and continuing resolutions. The firm guidance and the will of Congress have not been clearly and uniformly given. For example, last year during mid-December two continuing resolutions were passed, making appropriations for energy and water development (PL 97-88) and the Department of Interior and related agencies (PL 97-100). This timing was the latest in five years, and we were about one-fourth of the way into the fiscal year before somewhat definitive information was available to us.

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We are in the midst of an even more complicated process this year. With the large number of committees involved and the increasing gap between the House and the Senate and between the Congress and the Administration, it is more difficult to reconcile or even guess at the differences between Congress' intent and the Administration's intent with respect to such a large number of programs and proposals.

When do we know our budget? We attempt--through informal guidance from the various DOE program offices, hearings, and assessment of the mood of Congress--to determine a budget for each of the 1100 projects that make up the Oak Ridge National Laboratory. This must be done continually because the budget is a metamorphic process in contrast with many other government activities. It begins with the time when the President's budget is first introduced and continues through the many Congressional hearings. However, ORNL does not receive official guidance from DOE on the entire budget until the first financial plan is issued about the first day of the fiscal year. And in that DOE, too, must guess because, subsequent to the first financial plan, about 15 changes usually take place during the course of the year--with some programs adjusted upward and others downward. In many cases, the budget is only established in a fairly concrete way during the second quarter of the fiscal year when DOE program managers understand what the budget might be for the next year and, consequently, are willing to reach decisions for the present fiscal year.

In summary, generally, we do not have a reasonable understanding of our budget until the fiscal year is half over. Therefore, we must continually assess and judge using the art of verbal communications to determine what our budget will be for as much as a year before we have firm numbers. When it is known that the budget is likely to increase or remain fairly stable, such guesswork is tolerable; for if we underestimate the budget, we are still able to hire, set up contracts, or in some cases even stretch work out over a longer period of time.

However, a new dilemma has arisen in the last two years simply because, as the budget decreased, the degree to which impacts had to be judged became far more critical for several reasons. Not only did the programmatic areas have to be reduced, but the resultant very large impact on people, their futures, and the continuity of their research became paramount considerations. In addition, there is a simple but very complicating administrative fact: If timely actions are not taken, the program is exacerbated. For example, if a budget would support say 100 people through a given fiscal year and it is anticipated that in the next fiscal year the budget would support only 90 people, then if we delay too long in acting on the surplus ten people, the number becomes greater than ten because salaries, severance pay, etc. would have decreased the available funds. As the fiscal year progresses, the number becomes even greater so that early action which might affect ten people could later, if delayed, affect as many as 20. Thus, guessing at what the budgets will be and then acting in a timely manner to prevent even more serious impacts to programs and people is the dilemma that confronts us.

Also, employees must be given adequate notice to optimize their chances of finding jobs and to allow us time to provide them with services such as assistance in writing resumes; developing interview techniques; and making contacts with industries, universities, and other laboratories so that they will have at least an initial start toward formulating new careers. The earlier they begin, the larger their advantage over others who may be released by other institutions.

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Reduction-in-force actions take (by Union Carbide Corporation policy) at least one month. But we try to give two to three months' notice. Since actions should be completed by the end of the fiscal year to match the new budget, we must work back in time three months from September 30. Thus, we have notified the staff of the magnitude of the problem and have instituted a voluntary reduction in force (VRIF), which means that certain people may volunteer to leave if it can be shown that their leaving will save the job of someone else. This traceability then allows persons who might have left because they have a job elsewhere, who wish to continue their education full time, who planned to retire early, etc. to terminate and, thus, save the job of someone who is at risk. An additional complication in Oak Ridge is that, because we are not near a large metropolitan area like other national laboratories and because the economy of the Oak Ridge area is so intimately tied to employment actions at the DOE facilities in Oak Ridge, the impact is larger and personal dislocations are more traumatic. Therefore, we try to be extraordinarily careful in every action we take.

I have already announced a voluntary reduction in force and anticipate approximately 125 people will leave by this route. In addition, I expect another 100 people will have left by September 30 as a result of new job opportunities (probably through transfers to other DOE facilities in Oak Ridge), because of changes in family situations, or because they just gave up on the kinds of problems they had to face in working in an uncertain atmosphere. The number of people who must be separated through an involuntary reduction in force (IRIF) cannot be determined until we know the outcome of the two actions just mentioned. After these numbers are ascertained, we will then issue notices to the people who will be required to leave because of a lack of programmatic support. We anticipate notices of involuntary reductions will come in mid-June, an action which we think pushes to the limit our capability to know detailed budgets and to give people adequate time so that they can make other plans.

Last year, using this same method, we reduced our staff by approximately 200. We followed a time schedule like the one being used now, though fewer uncertainties were involved then. Since those reductions, we have lost another 100 people through attrition. Thus, the total impact on the Laboratory in the last two years will be about 700 people.

But these actions hardly come as a surprise to the ORNL staff. Such possibilities were mentioned in the newspapers in early February as the initial DOE budget was being assessed. The subject has been discussed at a number of staff meeting, for I think we must continually inform people in a timely way about the problems and uncertainties as well as the significant accomplishments of the Laboratory so that they can consider those in setting personal career and family goals.

At Oak Ridge, we have assessed the budget situation which we think will result in layoffs using three cases: the **most optimistic**, the **most pessimistic**, and the **most likely**. This is the way we have done things in the past and have come relatively close to the actual situation. In fact, last year no further actions were necessary since our **most likely** case was so close to what actually happened. The **most pessimistic** case (i.e., in which we take the worst impact of possible Congressional and Presidential actions) would result in 700 people being terminated. With the **most optimistic** case (in which all the programs the

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Administration wants and all those Congress wants are passed), we could hire 200 people. However, we have used the most likely case which, by our best judgment and knowledge at the time a decision had to be made, meant a reduction of approximately 400 people. Our assessment includes judgments about the most likely compromise between Congress and the Administration in areas where some precedence has been established. If DOE programs are funded by a continuing resolution, the mix of people who will be affected will be different from our assumptions if the continuing resolution is at the FY 1982 level and not at the spending level of the last quarter as some continuing resolutions have been. In the case of a continuing resolution, we would have to reduce our staff by approximately 200 people rather than 400; but because different kinds of skills would be touched, we would still have to have an involuntary reduction in force in certain areas as we did last year in the biological and life sciences.

The largest single people and programmatic impact of the present budget situation is in the biomedical and life sciences area. This is an area where there is little precedence on which to base actions because it apparently results from a rather drastic philosophical and policy change within DOE and OMB. Several years ago, for example, OMB decided to shift health-related work from DOE to the Environmental Protection Agency (EPA) and also decided at that same time to move some other kinds of work from EPA to the DOE fossil energy program. This $14-million shift away from DOE to EPA required a rejustification of work and resulted in a number of changes, just because of the difference in agencies involved, even though the work needed was the same. With subsequent problems in EPA, some of that work has disappeared and/or has been transferred to EPA's own laboratories. However, these shifts constitute only part of our problem in health-related research. The major problem seems to be purely a consequence of changing opinions about the proper role and priority of such work.

Another difficulty occurred last year in all programs when the President ordered a 12% across-the-board cut six days before the fiscal year began. This, of course, sent very strong waves of doubt and uncertainty throughout the system. The cut was subsequently moderated by Congress, yet those actions early in the fiscal year, after programs had been planned, did cause substantial concern. Even after decisions are made by Congress, we must still encounter new uncertainties because of recisions and deferrals that are proposed by the Administration.

Let me return to the biological area. Budgets for this area of research have declined over a number of years; but the decline has been slow, steady, and somewhat predictable. In FY 1983, however, it appeared the Administration's cut will be 20%. That reduction, coupled with a cost of living increase for doing business, meant that approximately 30% of ORNL's researchers in this area would have to be terminated. Substantial economies were made by reducing travel and materials purchases and consolidating activities; however, because the biological area is more manpower intensive by the very nature of the research, flexibility is not as great as in areas which are more technology- and hardware-oriented.

Many other areas are, of course, affected. Fossil and conservation have suffered greatly within the Administration for the second consecutive year. Nuclear programs are, in practice, being cut at ORNL although the Administration is pursuing a more strenuous nuclear program. Particularly hard hit are the fuel reprocessing programs and the accompanying breeder development. While the

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overall nuclear budget is going up, technical support to these projects is, of necessity, going down because as projects go forward they will consume more of the available funds.

The fusion area will remain approximately constant at Oak Ridge, not suffering a decline; but as many projects near completion, funds will go to other fusion projects.

It is surprising to me that, apart from the gloom and understandable dismay within the biological and environmental areas, the pace and schedules of ongoing research projects have not been impacted nearly as much by the uncertainty of future funding as I had anticipated, especially considering the size of the cuts. This is, perhaps, because researchers have become accustomed to uncertainties and have learned to live with and manage them over many years and during a number of different administrations.

We also anticipate future problems in rehiring our personnel or hiring their colleagues whenever budgets improve. Of course, when people are separated from the Laboratory, they receive severance pay which is approximately one week's salary for each year of service. We do have a recall procedure in the event that budgets pick up so that we will rehire people (if they are available) when their qualifications and past performance fit the work being increased. However, no compensation can be made for the personal and family trauma associated with separation, particularly when both the Laboratory and the individual know that the work is important; that the person's contributions have been consistent and valuable; and that the disassociation is, seemingly, necessitated by unprecedented acts which have resulted in budget uncertainties.

As people attempt to deal with uncertainties, naturally many of them will seek areas of research where fluctuations are not nearly as great and in which there are other opportunities for combining industrial and government research. Certainly there are benefits in being attached to a university where professorships, tenure, and other amenities allow people to leave research for teaching when times get tight. In fact, some of our best people have already elected that option; and we are greatly concerned that more will follow. This is particularly critical in the biomedical sciences where key research teams, which are characteristic of national laboratories, have been set up to undertake extremely difficult, long-term experiments where continuity, high-risk, and intense dedication are necessary. Such undertakings involve a commitment by the institution as well as the individual. That commitment has become less and less certain in recent years. The fact that these teams must be broken up or diminished in size obviously means they cannot accomplish nearly as much and, therefore, the pace at which things are understood will, by necessity, be greatly reduced.

It is difficult to testify about areas where negativism or uncertainty exist without coming to the conclusion that there are indeed some solutions to these problems. I have already mentioned the ideal case at the beginning. Now let me touch on some areas that could be improved because there, obviously, has to be a better way.

Other countries supply multiyear funding, particularly in the basic areas. Examples are France, Sweden, and the EURATOM countries. Investigators are

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forewarned about the rate at which budgets will slow down or accelerate and can plan their research as well as their careers in a far more consistent way than can be done with the very precipitous way R&D budgets are established in this country. Multiyear funding gives a degree of stability to the fragility of doing the necessary research and development. I realize, however, that because of the nature of our political system, multiyear funding would be very difficult to achieve.

On the other hand, action could be taken earlier. I have already mentioned the features that complicate the budget process--the number of committees, hearings, competing factions within Congress and the Administration. But action needs be taken earlier because the sooner differences are resolved , the better institutions will be able to handle whatever changes are necessary and to handle them in a more reasonable manner. In a recent review I made, approximately 90% of all appropriations in the last 20 years have been made after the beginning of the fiscal year. The budget process for the last two years has been a year-round operation, with six continuing resolutions out of the ten committee actions. Last year, there were two continuing resolutions (energy and water development and Department of Interior) which came when we were one-quarter of the way into the fiscal year. Such actions make it extremely difficult to decipher what is actually happening far enough in advance to act in the wisest manner, particularly when deferrals and recisions are constantly hanging over our heads.

In the short term, because I believe it would be impossible to implement either of these suggestions, the only real solution is to set aside specific funds in agency or laboratory budgets which can be either used or carried over from year to year. These funds would be used to provide severance pay and salaries up to the time of the required severance. And when all the signals are in, financial plans are finalized, and Congress has acted, if reductions are necessary, they could be taken in such a way as to affect the smallest number of people because the next fiscal year's funds would not be involved or impacted. These carry-over funds, hopefully, would seldom be used; but they would greatly ease our problems and provide a certain degree of confidence and stability to the process so that work could be carried out more efficiently during such times and action taken in an orderly and humane manner.

Of course, the national laboratories are operated differently. They have different sources of information, have different corporate policies, read the tea leaves differently, but all will make mistakes. These mistakes are particularly harmful any time people and their extraordinary professional contributions are involved. We at the laboratories and you in Congress need to do all we can to ease the trauma and to bring more order to our country's innovation and productivity processes.

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Biography

HERMAN POSTMA

Herman Postma became Director of the Oak Ridge National Laboratory on January 1, 1974. In that capacity, he is responsible for directing the activities of the Laboratory in generating, analyzing, and systematizing new scientific knowledge; in developing new technologies that will offer the nation options for nuclear and other energy supplies and for more efficient systems for energy utilization; and in performing research and development in support of other national needs where the Laboratory's experience or abilities permit it to make important contributions. Programs under his direction are aimed at systems that are compatible with environmental acceptability and commercial viability, and significant effort is being made to disseminate technology to industry for implementation.

Postma's first association with the Laboratory was as a summer student from 1954 to 1957. In 1959, he joined the Laboratory's Thermonuclear (now Fusion Energy) Division as a physicist studying high energy injection. After serving as Assistant and then Associate Director of the Division, he was appointed Director in 1967. He was responsible for directing research in controlled thermonuclear fusion: experimental and theoretical plasma physics; atomic, ionic, and molecular beams; high energy phenomena; high vacuum research; engineering; and fusion feasibility.

In 1963, he was a visiting scientist with the Dutch government at the FOM-Instituut voor Plasma-Fysica, The Netherlands. From 1968 to 1974 he was on the Board of Editors of Nuclear Fusion, an international journal. He has served on committees for the National Academy of Sciences, Atomic Energy Commission, Energy Research and Development Administration, and Department of Energy. He is currently serving as a member of DOE's Muliprogram Laboratory Panel of the Energy Research Advisory Board. Postma has been a consultant for the University of Rochester's Laboratory for Laser Energetics and chairman of the Board of Trustees of the Oak Ridge Hospital of the United Methodist Church. He is a professional engineer (nuclear), State of California (1977) and a fellow of the American Physical Society, the American Association for the Advancement of Science, and the American Nuclear Society. Presently Postma serves as a member of the Advisory Council of the College of Business Administration, The University of Tennessee; member of the Board of Scientific Advisors to the North Carolina Energy Institute; member, Union Carbide Corporation Technology Council; co-chairman of the Industrial Research Institute/National Laboratory Task Force; member of the Planning Committee for International Scientific Forum on Changes in Energy; treasurer of the Oak Ridge Chamber of Commerce; membe. of the Research and Development Council, American Management Association; and member of the Governor's (Tennessee) Task Force to Study Technology Corridor.

Postma was born in Wilmington, North Carolina. In 1955, he received a B.S. degree in physics from Duke University and a Ph.D. in 1959 from Harvard University. In addition, he has done work toward an M.B.A. degree at The University of Tennessee, Knoxville.

His wife is Dr. Patricia Dunigan Postma of Oak Ridge. They have two children, Peter and Pamela.

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Mr. FUQUA. Thank you very much, Dr. Postma. We appreciate all of the problems that you mentioned about the untimely enactment of the budget. It has certainly caused great frustrations here also.

From the point of view of laboratory directors, administrators or positions of management responsibility, both from the headquarters and the Congress, the question I think we are after is how do we best preserve the resources of the labs? Is it merely a matter of money or is it our attitude toward energy R&D; should it be separated from our public policy about Federal and private roles in managing energy supplies? Do any of you care to comment on that?

Dr. Blume?

Dr. BLUME. Clearly money is an important part of it, but it is not the entire question. We need to have some stability in philosophy. My colleagues referred to this. Some years ago the laboratories had great pressure put upon them to respond to the national energy crisis with research which was perhaps more immediate in its results. Most of the laboratories responded to the best of their abilities. It was not always possible for us to respond in a way that would enable us to carry out the proper type of research.

Now we find ourselves of course in the situation where those of us who did respond, in some cases under great difficulties, are chastised for having responded in that way and the philosophy is reversed. Some of the programs established hurriedly at that time, are being cut equally hurriedly. We need a consistent philosophy and the ability to plan. It has an impact on personnel. In some cases, people have willingly gone over into new areas of endeavor and can't return to the old areas.

I would like to draw the analogy between a research scientist who is something of an artist, and a mile runner. A mile runner in training might be able to run a 4-minute mile and if taken out of training and the runner does something else for a few years, you can't get back into that peak shape. The same problem faces administrators. Those leaving research for administration may find it difficult to get back to that as well. You can't switch the people around. There has to be an element of consistency.

Mr. FUQUA. This is the point I made earlier with a previous witness, that the Congress and the administration came to the national labs in times of national crisis to assist in a need of alternative energy sources and the labs responded as they should have. Now, you find yourselves in effect being penalized because you did respond and a disruption is happening in your laboratories that is really not your fault. And it is of great concern to us that we do not in any way damage the great resources that we have, even though you are operated by various contracts to the Government.

As a laboratory director, Dr. Kerr, whom do you report to in DOE?

Dr. KERR. There is no single answer in the following sense. The contracting officer, of course, is the Albuquerque Operations Office manager. For program guidance it is the part of DOE responsible for that program. Defense programs play a special role relative to Los Alamos, Sandia, and Livermore, in that as the three weapons

laboratories, they are of particular interest, and there is continuity of interest in that particular department.

At the present time we are approaching 600 lines in our financial plan and behind each line lies someone in headquarters that we report to in a programmatic sense.

Mr. FUQUA. Dr. Shirley, who do you report to?

Dr. SHIRLEY. I am an employee of the University of California and each of us reports within the university to the president of the university. In DOE, we have an area office, the San Francisco office, and Mr. La Grone is the manager of that office; within DOE in Washington, Dr. Trivelpiece, Director of the Office of Energy Research. We, too, however, have many hundreds of lines in our budget, and so we have strong coupling to many program directors at several levels in the Department of Energy.

Mr. FUQUA. Is that generally true of the other labs?

Dr. BLUME. Yes. I believe each of the laboratories has, if you like, a daddy rabbit to which we are responsible. The institutional health of the laboratory is looked at by that particular area, weapons in the case of Los Alamos, energy research in case of the others. But the institutional health can only be looked at in a relatively narrow way.

I believe a very strong attempt is made to look after the laboratories there, but because of the wide spread of funding, it is not possible for energy research to have an influence over the degree to which fossil energy is supported in the laboratories.

Dr. POSTMA. This diversity and fractionation that has taken place has been recognized by the Department of Energy and each year each of the institutions is asked to put together an institutional plan which projects where the director and the staff think the laboratory ought to be going over the next 5 years. That plan is examined within the Department of Energy headquarters, circulated to the various assistant secretaries for their feedback and input as to their own interest in using the capabilities of the laboratory in those areas. Sometimes this feedback is very good, sometimes it is rather uncertain.

As you are probably aware, the difficulty of feedback from areas like fossil and conservation and solar nowadays is tentative at best.

Mr. FUQUA. Taking all the carrots back, daddy rabbit?

Dr. POSTMA. There are no carrots for daddy rabbit this year. There is a strong attempt to try to put all this together to be a cohesive character of a laboratory, because each laboratory is unique in its kinds of people, in the talents, the disciplines that it has that can be applied to energy problems in quite different ways. I think that has been an undertaking that started with ERDA and is being reinforced within the Department of Energy. It is not fully effective yet because of all the uncertainties that we are dealing with today.

Mr. FUQUA. At Oak Ridge did you report to Mr. Hart plus the people at headquarters?

Dr. POSTMA. I am a Union Carbide employee. The contract administrator is Mr. Hart in the Oak Ridge Operations Office and programmatically we go to headquarters and to the Oak Ridge Operations Office for guidance in all the areas in which we receive

money, and it depends on which area you are talking about as to whom we go and when.

Mr. FUQUA. As the budget process has unfolded, and particularly the last couple of years, what kind of guidance outside of the financial plans have been provided to you? You mentioned you had the 5-year plan.

Dr. POSTMA. The 5-year plans are generally rather broad.

Mr. FUQUA. Programmatic?

Dr. POSTMA. Yes. This particular year we do receive very specific guidance from headquarters personnel as to what programs will be cut, terminated, reduced, or increased as part of their judgment about where the Department of Energy is going during the next year. And in some cases, that is verbal, in some cases that is written. And we then take action with respect to those as best we can. In some cases people throw up their hands within the Department of Energy saying they have guidance with respect to the President's budget, but they also know the Congress is likely to take other actions and for the lab to use its best judgment, which is what we as laboratory directors try to do. We use our best judgment, but we may be wrong.

Last year, for example at Oak Ridge, we were approximately right. We didn't have to take any more actions. This year I may have to undo some things that I am now in the process of doing or I may have to take more drastic actions, I don't know.

Mr. FUQUA. How are the laboratory personnel reductions implemented? Are they an elimination of programs and then automatic termination of the staff that is associated with those programs, or is it eliminated through job description and through the termination of like specific jobs that somebody might be working on, or is it just individuals?

Dr. Shirley, you have been affected 19 percent.

Dr. SHIRLEY. I am afraid I am an expert on this subject. When a program is terminated, the individuals working in that program have certain skills, and they must be compared with other individuals in that division of the laboratory who have similar skills. They have bumping rights within the personnel policies and procedures of the University of California.

Mr. FUQUA. Suppose someone is working in the solar program, but he also is a physicist. Could he go back into the nuclear program or to some other program that was still ongoing?

Dr. SHIRLEY. He does have rights of seniority over other physicists with the same skills in his division of the laboratory.

Mr. FUQUA. The division, would that be like solar?

Dr. SHIRLEY. No. We have not been able to keep up our reorganization with the reorganization of the Department of Energy. We tend to be organized more along disciplinary lines. For example, we would have nuclear sciences or physics divisions. The indirect personnel have to be terminated in order of decreasing seniority, and it is important to remember that, when you terminate a progarm in the laboratory, it is not a clean process of just identifying the people working in that program. Because of the seniority of the people that are directly funded through that program, there may be impact on other people with the same skills elsewhere in the laboratory, and particularly in that division.

But in addition, through the indirect cost, there will be loss of indirect funding. There will be an impact on the overall support structure in the laboratory, and this is actually exacerbated by the fact that we also have certain fixed costs. We still have roads to maintain, we still have a fire department, et cetera. So if we get a 10-percent reduction in funding, we may have to reduce our support structure in a laboratory 15 or 20 percent and this means terminating people in some cases who have been at the laboratory many years.

Mr. FUQUA. What happens if a researcher sees this coming, he sees what is happening in February when the budget was submitted February 8. He sees what is happening to his program, that Congress may or may not enact it, but he begins to get somewhat excited about his future. Does he start then applying for a transfer to another department to bail out?

Dr. SHIRLEY. He is unlikely to be able to act quickly enough. For one thing, we are not hiring in other departments. I think the most profound effect that it has is a demoralization of the employee. A professional doing creative work is a rather finely tuned organism, and he is going to follow the developments in the Federal budget process that he reads about in the daily paper.

I can tell you that a lot of people were holding their breath last week as the budget proceeded in the House and then finally no budget was adopted.

Mr. FUQUA. In your particular case where you are affiliated with the University of California, and I guess the same case would be for Los Alamos, do they have a retrenchment road back into the university system where they could teach?

Dr. SHIRLEY. No; they do not, in general.

Mr. FUQUA. Dr. Blume, this is not totally related to this, but you mentioned in your prepared testimony the possibility of a continuing resolution for fiscal year 1983 and the effect it would have on Isabelle. Isabelle was approved and funded for fiscal year 1982. Funds were not requested by the Administration in 1983, but if we had a continuing resolution, continuing funding at the 1982 levels, would not Isabelle continue to be funded?

Dr. BLUME. I don't know the character of the continuing resolution. As I looked at the continuing resolutions in the past there have been some that took the lowest of the numbers, as was mentioned here.

Mr. FUQUA. That is true.

Dr. BLUME. So I took a pessimistic assumption in arriving at those figures. In fact, we would of course benefit if construction funds were retained. There was $15 million in construction for Isabelle in fiscal year 1982, and nonbudgeted for fiscal year 1983. The laboratory submitted a revised request to the Department of Energy for $10 million in funding. All together, if we add together the operating money for research and development and the construction funds, there is a net reduction in high energy physics money at Brookhaven of approximately $2 million, including the construction, and going from fiscal year 1982 to the Presidential budget of 1983, so we would be $2 million up if the construction money were included. I took that figure to have an assumption on the continuing resolution. I was absolutely not asking for that.

Mr. FUQUA. I was sure of that.

Mrs. Bouquard.

Mrs. BOUQUARD. Thank you very much, Mr. Chairman.

Thank you gentlemen for your excellent testimony.

Dr. Postma, I would like to discuss some of the biomedical division cuts at Oak Ridge. I would like for you to give us a little more detail involving the criteria contained in Union Carbide's personnel practices, guidelines, that would govern your implementation of reductions in force. Is seniority one of the many factors? Is it the guiding factor taken into consideration?

Dr. POSTMA. We have to deal with several factors in any of those decisions, one of which is how well has the person performed in the job that they currently have.

The second is, is that still a skill that could be transferred to another area? Can they actually replace or can they be utilized in another area?

The third criteria, of course, is that if everything else is equal, then you would favor the longer term employee.

A fourth consideration has to do with our affirmative action policies to making sure that we are fulfilling the goals of our affirmative action within the laboratory, and all of those things have to be balanced.

You may remember a few years ago that Sandia was sued and they had a class action suit about discrimination against older people in the layoffs of 1973. They then, nor do any of us now, wish for that to happen, because it is a federal law, as a matter of fact, that we are to have an affirmative action goal.

So all of these factors do enter in and we have to make decisions. Now, we do receive explicit guidance, not with respect to people, but with respect to programs, from headquarters. It is up to us to decide whether that person is transferable, whether the skill can be utilized elsewhere, whether they can replace someone else in what kind of program and that is what we try to do in reaching those decisions. But the decision about a program disappearing is usually made by the people at headquarters.

Now, at some stage, and we have rapidly come to that stage, when you see things being constantly chipped at and eroded as in the biomedical areas I mentioned where we will be approximately half the size we were 2 years ago—then you have to reconsider your whole philosophy for directions of research, and of course, that is something we are presently doing.

We feel instead of being a comprehensive biomedical laboratory, the most comprehensive within the DOE, we will have to retract to something more focused in areas in which we have long term, established, very high capabilities, particularly in genetics, toxicology, and carcinogenics, rather than the more comprehensive research we had before.

Mrs. BOUQUARD. So the programmatic directives are handed down by the DOE?

Dr. POSTMA. Yes.

Mrs. BOUQUARD. Then you take into consideration the importance of the individual, longevity, length of service, and the other considerations?

Dr. POSTMA. And the key skills that are required.

Mrs. BOUQUARD. They can be transferred?

Dr. POSTMA. They can't always be transferred. We have board certified toxicologists. Veterinary pathologists will not qualify as a board certified toxicologist. You have to work with board certified toxicologists. On the other hand, you cannot get accreditation for handling animals unless you have a board certified veterinarian.

Mrs. BOUQUARD. I can understand that. Do you really feel that under this procedure that the most valuable people will be protected in the fiscal year 1983 RIF? Will the most talented and productive scientists in the biology division be retained or will they have to go by the wayside because of additional criteria? I know that is a tough question.

Dr. POSTMA. We will certainly try to keep the most talented, whenever their skills are applicable elsewhere. This committee several weeks ago heard an assessment of the basic energy sciences as performed by an outside group as to how valuable the contributions were with respect to other comparable organizations that were funded by the Federal Government, the work being done elsewhere, and came to the conclusion that the work being done and funded by the Department of Energy was the highest caliber, that its productivity was something like a factor of two greater than the average for other operations. I think that is commendable.

So our people are constantly frustrated knowing that they are among the best that the country has in the health sciences area, the top 30 percent of the work done in a certain area is in the top 90th percentile of all work done in the country. That says that those people are three times better than their counterparts in terms of productivity. It is hard for those people to accept the fact that their work is not deemed to be good enough to keep funded.

Mrs. BOUQUARD. I certainly share that concern with you, Dr. Postma.

You studied the impacts under several scenarios. What would be the reduction in force under a continuing resolution at the 1982 levels?

Dr. POSTMA. If the 1982 levels persisted for the 1983 budget, of course we would have to absorb whatever the cost of living increases would be, which would mean a reduction in force by the time we got through with it of approximately 215 people rather than 400 as I had indicated earlier. However, there are some new areas that would be going down that are not now going down and there are some areas that would be going up as a result of the continuing resolution. But in the main, in reference to your previous question, it would cut our biomedical and health sciences area reduction from 120 down to 60-some; so approximately half the effect in that particular area.

Mrs. BOUQUARD. How would it be affected with an addition of $6 million to the fiscal year 1983 administration request, such as the House budget program?

Dr. POSTMA. That is hard for me to assess right now, because of the very complicating fact that Congress gives instructions to the Department of Energy about the continuing resolutions or funding levels, but then a program person within the Department of Energy has to decide precisely how that "new money" is going to be utilized, and it will probably not be carried across the board so

that everybody gets an increase. The person would have to make some programmatic decisions about what is to be dropped and not.

So in some cases, depending upon those decisions, we could end up having no problem or having precisely the same problem we have now, depending on how that person——

Mrs. BOUQUARD. Even though the Congress gave you an additional $6 million to the program, that decision would still be made by the Department of Energy?

Dr. POSTMA. Yes. Congress does not give me or the Oak Ridge National Laboratory any money. It gives it to the Department of Energy, who then decides how to use it within the programmatic areas.

Mrs. BOUQUARD. With the directive of Congress to the Department of Energy?

Dr. POSTMA. Yes.

Mrs. BOUQUARD. Thank you, Mr. Chairman.

Mr. FUQUA. Mr. Lujan.

Mr. LUJAN. Thank you, Mr. Chairman.

Let me get into the differences and see what happened and how you handled the differences between 1981 and 1982.

Dr. Blume, Brookhaven had a reduction of outlays between 1981 and 1982 of maybe half a million dollars, according to my schedule, from $174,242,000 down to $173,994,000, so it is about $300,000. It is substantially the same.

Dr. BLUME. There was a reduction of several million dollars, I believe, in going from fiscal 1981 to 1982. Is that what you said?

Mr. LUJAN. Yes. My figures show you went from $174.2 million to $173.9 million in outlays. That is only $300,000.

Dr. BLUME. OK. It depends on which numbers have included, but that is reasonable. That is close enough.

Mr. LUJAN. How did you handle that direction? Did you fire anyone?

Dr. BLUME. We had a reduction in force of 350 people.

Mr. LUJAN. From $300,000?

Dr. BLUME. With the impact of inflation and increased operating costs of facilities, this amounts to a considerable decrease.

Mr. LUJAN. And in changes in procurements?

Dr. BLUME. Yes.

Mr. LUJAN. Things like that?

Dr. BLUME. Procurements are reduced. When electric power costs increase, for example, we don't get a separate plug of money for the operating expenses of the laboratory.

Mr. LUJAN. You just get a bulk amount?

Dr. BLUME. We get money for research programs.

Mr. LUJAN. You get a bulk amount program by program and you can interchange that between employees and operations of different kinds?

Dr. BLUME. That is correct.

Mr. LUJAN. So with a budget reduction of $300,000, you lost 300 employees?

Dr. BLUME. That is correct. When our electricity costs go up, less than projected but nevertheless go up something like from 4½ cents a kilowatt-hour to 6 cents, and the laboratory is energy intensive because of the large research facilities that use power, we have

to continue to operate them, and the only way in which we can reduce costs in a significant way is to reduce the personnel. This is a real impact of inflation.

Mr. LUJAN. That seems quite out of proportion, that 300 people should lose their jobs.

Dr. BLUME. Not if you consider an inflation rate of approximately 10 percent.

Mr. LUJAN. It wasn't that last year.

Dr. BLUME. You can't take the cost of living.

Mr. LUJAN. Are they different for the laboratory?

Dr. BLUME. Yes, because they depend on particular elements. If fuel oil goes up, for example, if that is a large component of our heating during the winter, then that is going up at a much faster rate than other elements. We are not so much concerned with the cost of food but with particular elements that we use.

Mr. LUJAN. Berkeley, $120 million down to $108 million, and you laid off 700?

Dr. SHIRLEY. No; we laid off 600. We laid off about 19 percent. That is a decrease—you have just described a decrease of 10 percent in number of dollars, and with approximately another 10 percent due to inflation, you come to about 20 percent.

Mr. LUJAN. Alphabetically you come next, but you have from 417 to 455——

Dr. KERR. I think there is confusion between inflation and what laboratories experience as escalation. For example, in our case, one of the components was a 17-percent rise in the cost of electricity. Another component is that the laboratories buy equipment, generally high-technology equipment, which doesn't change with the inflation rate but really at a substantially higher rate, in some cases.

In our case, we were reduced by 312 people, and it was because the amount of money we needed to support the fiscal 1981 staff was some $36 to $40 million more than the fiscal 1982 budget, and so we had to reduce against that difference, between what it would cost to maintain level-of-effort and what we had.

Mr. LUJAN. I guess Oak Ridge experienced the same situation, even though we went from 330 to 308?

Dr. POSTMA. Yes. We would have to have approximately 330 just because of the cost of doing business, so we were short $20-some million.

Mr. LUJAN. What is the natural attrition rate? is it basically the same in all the laboratories?

Dr. KERR. In our case, up until this year, it was running around 4 percent, and this particular year it has run at a lower rate because there aren't as many alternatives available to people. Those who might retire will, but those who might have gone to other jobs aren't doing so.

Mr. LUJAN. Is 4 percent about the right figure at all the laboratories?

Dr. BLUME. Four percent is about right for the nonscientific staff. On the scientific staff we have a fair number of temporary positions or terminal positions, scientists who may come for 3 to 5 years, and of course, the turnover is larger in those positions because we force it. We keep a relatively small permanent staff and a

large number of scientists coming in. It is one way of renewing at the laboratory.

Mr. LUJAN. Let me talk about Los Alamos, because I am more familiar with that. The advanced isotope separation program, as an example, is going to go out the window since the selection was made for the other two. What will happen to those people? Will they by and large move into another program? Will those that work under the advanced isotope separation program be reduced from their jobs, or what happens in that case?

Let me lay the groundwork a little bit on one of the things we keep talking about—who is going to be let go. In talking, not to anyone in this group of four, but to some of your managers of different programs, I have been told occasionally that a RIF is probably a good thing because not everybody is very highly productive, and perhaps there is a good weeding out process in doing that. Why can't you do that?

Certainly not everybody in the laboratory is productive. I realize you have to put up with a lot of regulations that we passed in this Congress, as a matter of fact, but it seems to me like there ought to be 300 at Los Alamos out of 7,000 that are the least productive, and why not let those go, those who don't do anything?

Dr. KERR. You have given me broad scope for an answer, Mr. Lujan, but I will try to do it simply in the following manner. First of all, we in fact——

Mr. LUJAN. I don't mean it just for Los Alamos. It applies to all the laboratories. I am sure there are some nonproductive personnel.

Dr. KERR. This particular year we have in fact reduced by 312 people, and since our procedures differ a bit from Lawrence Berkeley, even though we are both part of the University of California, I should probably explain how we do it. When a particular program is affected, and it is the only one, clearly the first thing we worry about is where the people would go who work on that specific thing.

Like others, we worry about the importance of those individuals, but the units we consider are our technical divisions, which are not organized by the DOE program structure, but like several other laboratories are organized—more on disciplinary lines. Hence, we in the end ask who are our most productive physicists and who are the least productive, and to the degree we are able to answer that question, we reduce by terminating the least productive people.

I don't think you should have gained the impression at all that we believe the laboratories should be immune from reductions. In some cases, they are therapeutic. I think the concern we share as technical managers is that we do it in an atmosphere where some planning can take place, where one can take the time to sort the more productive from the less productive, and take responsible actions.

I mentioned at the beginning of my statement to you the spirit of partnership that existed when these laboratories were formed. That spirit has remained as they developed and matured, and as various Federal agencies came and went. I think the important thing is that for many years we enjoyed the oversight of technical people who had chosen to serve in Government who themselves

had substantial experience and substantial knowledge of how scientific institutions ought to be run. It is that partnership that led to the strength of these institutions and which is the strength we are drawing on today.

I think if I were to make any single suggestion, it would be that that pride in ownership, that pride in developing the institutions, be established, so that the planning we do in concert with the parent Federal agency can be the most responsible, from the point of protecting the personnel resources.

Mr. LUJAN. The difficulties are related, then, to the timing and the uncertainties?

Dr. KERR. Yes sir.

Mr. LUJAN. One more question. I guess in Los Alamos in particular, you would be better off—comparing the Senate budget which has passed with the President's budget—you would be better off under the President's budget, would you not?

Dr. KERR. That is correct. We would, at the President's budget level, be reduced by 370. In a worst case continuing resolution, the lesser of the President's budget or the fiscal year 1982 level, we would have to reduce by 750.

Mr. LUJAN. What about Brookhaven?

Dr. BLUME. We would be better off under the President's budget, but it varies from field to field. We have a great deal of instability because of the uncertainties. Some are up, some down, and if you switch it, the net effect is this: We have the President's budget here and the continuing resolution in some programs and they will go like that. The net effect is to be an overall reduction if we go to a continuing resolution.

Mr. LUJAN. You feel that Brookhaven would be better off with the President's budget?

Dr. BLUME. Yes; but different areas of the lab would be emphasized.

Dr. SHIRLEY. In Berkeley with the President's budget we would lose another 20 percent of our work force. At the 1982 levels we would lose another 10 percent with the continuing resolution. But again, there is a problem of distribution within the programs.

Mr. LUJAN. How about Oak Ridge?

Dr. POSTMA. It depends on the form of the continuing resolution.

Mr. LUJAN. The continuing resolution is generally the lower of last year's or what has been authorized.

Dr. POSTMA. In that case, if it is the lower, the worst of the two evils, then it is approximately 700 people. The question that the committee had posed to us had to do with the continuing resolution where the 1982 level carried forward. In that case, it would be 200 people. So we would be much worse off with the normal form of the continuing resolution, which is the worst of two evils, and——

Mr. LUJAN. Comparing the program of the Department of Energy, which is the President's budget, or the continuing resolution as you know it is going to be, which is going to be better for you?

Dr. POSTMA. Well, I think the continuing resolution might be better, although I would have to see the precise form, and what it said. I would like to add to what Don Kerr had said about one of your questions, which is you always cut off your fingernails and

work yourself up your arm until finally it starts hurting pretty badly. I would say that some of the cuts are indeed desirable and have fixed things last year—not this year, last year—sufficiently deep cuts were already taken.

I find it difficult to reconcile the fact that when you take very, very productive groups like I mentioned before, that independent investigators have stamped as being extremely productive, when you are taking the worst one of those, which is already better than the normal that you have throughout the country, then you are really hurting.

Mr. LUJAN. But it seems much like any other organization. You have a small group that really pushes the whole thing and then there are those that just come along, bringing down the average results, and that small group which leads the effort is the one actually responsible for the accomplishments. In some way, down-dragging at the very end are those that aren't really responsible for that excellence that you are talking about.

Dr. POSTMA. I don't think the United States would go very far if it just had its Nobel Prize winners to do all the work.

Mr. LUJAN. That is probably correct.

Dr. BLUME. We also need 4-minute, 20-second milers along with the 4-minute ones.

Mrs. BOUQUARD. Would the gentleman yield?

Mr. LUJAN. Yes.

Mrs. BOUQUARD. Our panel was asked under which budget they would fare better, and we will say that the President's budget is the Latta budget, which in the energy functions was $3.5 billion. The Senate budget energy category 270, $5.3 billion, and the Jones budget, which was right at $5.3 billion—let's include the Jones budget as well.

Which one would you fare better under?

Dr. KERR. It is quite clear that under the two higher ones we would fare better collectively. In detail from program to program, it is not possible to give you a specific answer, but clearly, if there is a billion plus dollars more, there will be more money available.

Mrs. BOUQUARD. Do the others agree on that?

Thank you very much.

Mr. FUQUA. Mrs. Schneider.

Mrs. SCHNEIDER. Thank you.

Dr. Shirley, I wanted to ask you a question about your energy-efficient buildings group. Is there any other laboratory or any other place in the United States that is doing the kind of work that you are doing there?

Dr. SHIRLEY. Well, we like to think of our group as being unique in some respects.

Mrs. SCHNEIDER. I figured as much.

Dr. SHIRLEY. There are other good groups in the country. There are groups at Oak Ridge and the Bureau of Standards, but we think that ours is unique in some of their activities.

Mrs. SCHNEIDER. What kind of blow would occur if this particular group had to be eliminated? Could there be a consolidation of the other groups that are working on this particular problem? Could they all be consolidated and come up with something equally as effective?

Dr. SHIRLEY. I don't think so under the present budget stringencies. You can only cut so far in terms of total national budget and then you have to give up on some activities, and I think this would make a very serious reduction, nationally, in the energy-efficient buildings program.

Mrs. SCHNEIDER. How effective are you in getting information out that is being produced by this particular group? Because I must admit this is the first time I have ever heard of it, and I am very interested, and I like to think that I am pretty well informed about energy conservation.

Dr. SHIRLEY. I believe that Dr. Rosenfeld has testified before congressional committees on several occasions. I think we are reasonably effective in getting our message across.

Mrs. SCHNEIDER. Perhaps to these committees, but I would assume that much of the information that you have to generate needs to go to the architects, to builders, to manufacturers of various insulating products. Is that not correct? What is your mechanism for transferring that kind of information exchange?

Dr. SHIRLEY. Well, a lot of that must be carried out with the Department of Energy, because it is not a research function per se, and our job is research. It is a real problem in the buildings area in contrast to, for example, conservation in the transportation area, where you have a few manufacturers that you can approach readily. In the buildings area you have thousands of architectural firms, contractors and so forth that you must reach.

Dr. POSTMA. Maybe I can add some specific examples to that.

Mrs. SCHNEIDER. I would apppreciate that.

Dr. POSTMA. We, like Berkeley, are in an energy conservation area. However, we deal more with the appliances, whereas they deal more with windows and the building envelope itself. We legitimized the night setback thermostat many years ago and that is something widely advertised and widely used and perhaps you have one in your home.

Hot water heater insulation appears in the Sears, Roebuck catalog, but it was something that was legitimized by our specific implementation that proved that that was a very good way to spend your money as a homeowner. Our specific heat pump improvements have appeared within the manufacturers already.

Future developments in gas-fired heat pumps are now currently under way and are being investigated. Consumers Report rated a number of heat pump hot water heaters which came out of a joint relationship between Oak Ridge National Laboratory and a number of hot water heater manufacturers. They were rated well and they are appearing on the market. We are having an impact on the energy consumption in the country in areas in which we have dealt, and I know the same thing has happened with the ballast lights coming out of Berkeley.

There are a number of things that have already appeared that you can buy off the shelf. The ERDA Administrator came to the labs 5 years ago and said, "if any of you are working on something that does not appear in the Sears, Roebuck catalog in 5 years, you are working on the wrong things for this agency." We had a different message 2 years ago. "If you are working on anything that does

appear in any catalog, you are working on the wrong thing. That is the province of industry."

Mrs. SCHNEIDER. So now what are you doing?

Dr. POSTMA. We are testifying.

Mrs. SCHNEIDER. I won't pursue that. I have some other questions.

Evidently the Stevenson-Wydler Act calls for the transfer of this information, and are you complying with that act through this process that you just described to me?

Dr. POSTMA. Yes; the act has some very specific things, including a specific transfer officer, et cetera, but it also involves local and State governments as well as transfers to industry, and I think there has been testimony given for several—at least last year approximately this time—about how the laboratories were responding to the Stevenson-Wydler Act.

I could give you a number of specific examples, including my own personal time involvement in such activities, but I will do that afterwards.

Mrs. SCHNEIDER. As long as you have all those specifics, that is terrific. I will call on you later if I need them.

There is another question I had to Dr. Shirley. Based on your comments that the deeper cuts, the later they are announced, of course, the greater disruptions will be caused, and we had some discussion here already about the continuing resolution versus the President's budget, and I don't know—I am pretty much of the opinion that we will eventually have a budget. At least I certainly hope so. But I am wondering in the interim if you are focusing on two entities that may not even come to be, and you are making decisions and laying off personnel or RIF'ing personnel and might you perhaps be jumping the gun. Do you feel, with some assurance that you should be making these moves before we do have a budget?

Dr. SHIRLEY. I do not feel with any assurance that we should be laying off personnel as yet because the budget picture is very cloudy, as perceived by the national laboratory Directors. We are running out of time, however; and the closer we get to October 1, the more difficult it is going to be to maintain our programs without laying off an unnecessarily large number of people in order to accommodate the closing costs. So it is really a matter of great urgency in a year when there is a large degree of uncertainty in what the budget is going to be, that we get the message as quickly as possible.

Dr. BLUME. If I could give an anecdotal example on this. In the last fiscal year at Brookhaven, we were operating an electric power transmission line study which had been some 10 years in development and construction, and this was reduced to zero in the President's budget for fiscal 1982. We were faced then with a choice of shutting that off—25 people—or keeping this going up until the end of the fiscal year and waiting to see whether the funds would be restored in Congress. With some trepidation we waited, and ultimately the funding was restored. We are now facing the same problem, and we are making the same decision right now. We have to estimate the probabilities to see whether we should let the people go and stop the project or continue it.

Mrs. SCHNEIDER. As a scientist, I bet you never thought you would be doing so much gambling, did you?

Dr. BLUME. I worked in random processes. That was my field.

Mrs. SCHNEIDER. One final question. I would very much appreciate a candid response from each one of you. One of you had mentioned earlier something about the reorganization of DOE, and we have not really had any hearings on that as yet, and I am also concerned that perhaps too often we see the private or public sector acting in response to trial balloons, and I am very concerned with that, because it is this body that I assume will ultimately be making the decisions on that.

I just wonder what your feelings are. Should we dissolve the Department of Energy and transfer some of its responsibilities to Commerce? What impact will that have on your operations and what impact do you feel that will have on the future of energy production and consumption in the United States and anything else you care to comment on, whether it be energy as tied into the national security perspective or whatever, in 25 words or less?

Dr. KERR. I will take the first 25 words, if I may, Mrs. Schneider. The bill, as it lies before the Senate, transfers intact the majority of the research and development activities which our laboratory is concerned with, and so in the sense of would there be disruption as a consequence of reorganization, I think not. Historically, we have some experience—having first moved with the Corps of Engineers to the AEC, on to ERDA, and now to DOE— with virtually every form of Federal organization that you have yet created.

Mrs. SCHNEIDER. You can eliminate the "you." I am new around here.

Yes, Dr. Blume?

Dr. BLUME. Brookhaven never faced the Corps of Engineers. We started with the AEC. I believe that the real question that most of us are concerned with is the status of the energy research and whatever department is established, will it be in a very subordinate position without attracting attention of the highest levels of the department or will it have the full attention of the highest level of the department? That can make a difference between proper running of the laboratories and the research effort or otherwise.

Mrs. SCHNEIDER. Do you have some assumptions on what that will be?

Dr. BLUME. I wouldn't make any assumptions.

Dr. SHIRLEY. To be a laboratory director you have to be an optimist in the face of all evidence. I note that the programs are scheduled to go over intact in the Department of Commerce, and therefore, I am optimistic enough to believe that we will be able to retain all the good aspects of the organization in the Department of Energy and maybe fix up some of the ones that could be improved.

Dr. POSTMA. Maybe they said it all. Every transfer that has occurred so far has brought with it a new philosophy by the kind of people who came in and a new set of procedures that were added to what was already there. Maybe during this transition some of the other procedures can be eliminated or completely replaced by the Department of Commerce so that we don't have layer after layer that actually impedes the work. So, I, like David Shirley, am an

optimist, hoping that improvements would take place. However, there is little precedence for it having occurred in the past.

Mrs. SCHNEIDER. OK, thank you very much.

Thank you, Mr. Chairman.

Mr. FUQUA. Thank you, Mrs. Schneider.

I would suggest that you not start changing the logo that you have on your facilities quite yet.

We thank all of you for your time, and we apologize for the hearing lasting such a long time, but I think you can tell that there is a considerable amount of interest in the fine work that all of your labs do, and thank you for being here.

Our next group of witnesses are from the DOE Operations Officer: Mr. Robert Hart, the Manager of the Oak Ridge Operations Office; Mr. Joe La Grone, Manager of the San Francisco Operations Office; Mr. Robert H. Bauer, Manager of the Chicago Operations Office, and Alex G. Fremling, Manager of the Richland Operations Office.

We will start with you, Mr. Hart.

STATEMENTS OF ROBERT HART, MANAGER, OAK RIDGE OPERATIONS OFFICE; JOE La GRONE, MANAGER, SAN FRANCISCO OPERATIONS OFFICE; ROBERT H. BAUER, MANAGER, CHICAGO OPERATIONS OFFICE; AND ALEX G. FREMLING, MANAGER, RICHLAND OPERATIONS OFFICE

Mr. HART. Thank you, Mr. Chairman.

Mr. Chairman, members of the subcommittee, my name is Robert J. Hart. I am the Manager of the Oak Ridge Operations Office of the Department of Energy, a job which I have held for the past 10 years. I am pleased to have the opportunity to appear before you and to discuss the impact of the proposed fiscal year 1983 budget upon Oak Ridge operations. I sincerely hope that the statement that I have submitted is responsive to your interest and questions. I will talk about it only briefly since I am coming after Dr. Postma, and he did a good job. We speak with one voice on this.

I kind of like the 25 words or less approach to this. The complex under the Oak Ridge Operations Office includes in addition to the laboratory at Oak Ridge, major facilities at Paducah, Ky., and Portsmouth, Ohio, which are engaged in enriching uranium for both national defense and commercial nuclear power uses. The facilities at Oak Ridge are engaged in the manufacture of nuclear weapons components. Programs and projects under ORO direction are predominantly nuclear but also involve numerous activities in other energy initiatives. This changes our view in many ways on some of the same questions that have been asked.

The entire work force in this complex numbers some 26,000 contractor employees and some 600 DOE direct employees engaged in program and project direction and contract administration. Of this work force, there are located in Oak Ridge almost 19,000 contractor employees, 4,800 of whom are at the ORNL. It is significant that the overall impact of the President's budget for fiscal year 1983 on Oak Ridge involuntary separations in the entire work force is something in the range of 1 percent.

Traditionally, perturbations in contractor employment in Oak Ridge have been cushioned by being distributed among the several plants. At the time when the laboratory is undergoing a cut there are increases in the weapons component work. Advance planning by my office and the management of the Union Carbide Corp.'s Nuclear Division, which operates the three major facilities in Oak Ridge, has been most effective in ameliorating the impact of reductions in staffing and the changing mix of disciplines needed in our ongoing programs and projects. Further, we believe this early planning minimizes the impact on current activities by reducing the loss of employee efficiencies which result when rumors are permitted to circulate and multiply without a stated management position. To plan effectively requires a prudent and somewhat conservative response to the changing program mix and fund availability as reflected in the guidance received from headquarters program and project management. This guidance reflects very closely the President's budget and the likely distribution of that budget. I am talking about the same kind of guidance that Dr. Postma talked about.

Following receipt of the fiscal year 1983 guidance, we developed plans for adjusting our Oak Ridge Operations Office and contractor staffing levels in order to be in a position to respond to the application of resources other than personnel to these same activities.

When the President's budget was submitted to the Congress in early February, it showed a significant reduction for the multiprogram field offices. We did not know at that time, nor do we now know, how the Federal staff reductions would be implemented because of the uncertainty in program assignments and other factors. But it was clear, that based on that budget submission, we should anticipate some reduction in employment levels. I asked my staff to begin to plan so that we could take the steps necessary to place Oak Ridge operations in a better position to react to the proposed funding reduction if it developed. We immediately instituted a program of no hiring from outside the organization so that attrition could have the maximum possible effect during the period before employment levels would be reduced. We also have reorganized some staff units and reassigned some personnel to other positions to attempt to anticipate and respond to a lean fiscal year 1983 budget. I would like to emphasize, however, that we have taken no action other than preliminary planning in connection with any possible reductions in force, and we would not anticipate any such actions during this current fiscal year.

I will now discuss the contract staffing situation at the Oak Ridge National Laboratory.

At ORNL, in anticipation of a fiscal year 1982 budget which was reduced below the fiscal year 1981 level, staffing was decreased by about 200 during late fiscal year 1981. This decrease in staffing at ORNL in late fiscal year 1981 was accomplished using the same procedures as are planned for the reduction in force this fiscal year. The 200 decrease was accomplished entirely by voluntary means.

Through February 1982, ORNL had achieved a further staffing reduction of approximately 100 by attrition, again in anticipation

of future funding levels as well as the impact of fiscal year 1982 cost-of-living increases not received.

In March of this year further decisions on ORNL staffing had to be made. Those included identification of various ORNL program areas likely to be impacted by the fiscal year 1983 budget cuts, and planning for available options to maximize overall laboratory capability. At that time, it was anticipated that 400 employees would be laid off by the end of the current fiscal year.

In early May, ORNL announced the layoff in order to afford its employees in affected groups the maximum opportunity to consider employment in other parts of the Union Carbide Corp.'s Nuclear Division or elsewhere and to trigger the opportunity for voluntary reduction in force. Both actions will markedly reduce the size of required involuntary separations.

By mid-May, 67 ORNL employees had already availed themselves of voluntary reductions in force, and we expect that this number will increase to a total of 125.

By early June, when the impact of voluntary separations has been analyzed, the involuntary termination RIF notices will be sent to affected employees. These employees will have to leave the rolls during September 1982. Because of this advance planning and early notice to employees, we now expect that involuntary separations at ORNL will be held to less than 200 employees. Under the DOE contract, Carbide employees who are involved in a reduction in force, either voluntarily or involuntarily, receive a substantial termination allowance. These termination allowances will average between 3 and 4 month's pay depending upon the tenure of the employees who are separated.

Should ORNL delay beyond August 1 for voluntary separations and early September for involuntary separations, we would risk not having sufficient fiscal year 1982 funds to pay termination allowances in several programmatic areas. Thus, the departure dates are directly related to available fiscal year 1982 funds.

ORNL management has given its employees as much notice as possible, and in fact, is providing better than 6 weeks' notice for involuntary separations.

Should the decision to terminate employees in fiscal year 1982 be delayed until fiscal year 1983, the payment of termination costs in fiscal year 1983 would make the funding situation more severe and could require termination of additional employees. This is the problem that seems to be always with us. We don't cherish the idea of asking people to leave their positions either voluntarily or involuntarily. We believe that the steps we have taken are prudent and conservative and embrace an overriding concern for the individual employee. Employment in our programs in Oak Ridge is the major economic force for the city as well as the area and for this reason, we must be candid and up front in the public arena with our projections for any likely impact on area employment. The economy of the area is tied too closely to the Oak Ridge DOE programs for us to do otherwise.

This concludes my testimony. I will be pleased to answer any questions.

[The prepared statement of Mr. Hart follows:]

TESTIMONY
BY
R. J. HART, MANAGER
OAK RIDGE OPERATIONS, DEPARTMENT OF ENERGY
BEFORE
SUBCOMMITTEE ON ENERGY RESEARCH AND PRODUCTION
AND
SUBCOMMITTEE ON ENERGY DEVELOPMENT AND APPLICATIONS
OF THE
HOUSE SCIENCE AND TECHNOLOGY COMMITTEE

June 2, 1982

***

My name is Robert J. Hart. I am the Manager of the Oak Ridge Operations Office (ORO) of the Department of Energy (DOE).

The complex under Oak Ridge Operations Office includes, in addition to the Oak Ridge National Laboratory (ORNL), other major facilities at Oak Ridge, Tennesee; Paducah, Kentucky; and Portsmouth, Ohio, engaged in enriching uranium for both national defense and commercial nuclear power uses, and facilities at Oak Ridge engaged in the manufacture of nuclear weapons components. Programs and projects under ORO direction are predominantly nuclear but also involve numerous activities in other energy initiatives.

The entire work force in this complex numbers some 26,000 contractor employees and some 600 DOE direct employees engaged in program and project direction and contract administration. Of this work force, there are located in Oak Ridge almost 19,000 contractor employees, 4,800 of whom are at the ORNL.

The overall impact of the president's budget for FY 1983 on the total Oak Ridge complex is expected to be an involuntary separation of only 1% of the total work force.

Traditionally, perturbations in contractor employment in Oak Ridge have been cushioned by being distributed among the several plants. Advance planning by my office and the management of the Union Carbide Corporation's Nuclear Division,

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which operates the three major facilities in Oak Ridge, has been most effective in ameliorating the impact of reductions in staffing and the changing mix of disciplines needed in our ongoing programs and projects. Further, we believe this early planning minimizes the impact on current activities by reducing the the loss of employee efficiencies which result when rumors are permitted to circulate and multiply without a stated management position. To plan effectively requires a prudent and somewhat conservative response to the changing program mix and fund availability as reflected in the guidance received from Headquarters program and project management. This guidance reflects very closely the President's budget and the likely distribution of that budget.

Following receipt of the FY 1983 guidance, we developed plans for adjusting our Oak Ridge Operations Office and contractor staffing levels in order to be in a position to respond to the final FY 1983 DOE budget. This type of planning is also applied to the application of resources other than personnel to these same activities.

When the President's budget was submitted to the Congress in early February, it showed a significant reduction for the multi-program field offices. We did not know at that time, nor do we yet know, how the Federal staff reductions would be implemented because of the uncertainty in program assignments and other factors. But it was clear, that based on that budget submission, we should anticipate some reduction in employment levels. I asked my staff to begin to plan so that we could take the steps necessary to place Oak Ridge Operations in a better postion to react to the proposed funding reduction if it developed. We immediately instituted a program of no hiring from outside the organization so that attrition could have the maximum possible effect during the period before employment

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levels would be reduced. We also have reorganized some staff units and reassigned some personnel to other positions to attempt to anticipate and respond to a lean FY 1983 budget. I would like to emphasize, however, that we have taken no action other than preliminary planning in connection with any possible reductions-in-force, and we would not anticipate any such actions during this current fiscal year.

I will now discuss the contract staffing situation at the Oak Ridge National Laboratory.

At ORNL, in anticipation of a FY 1982 budget reduced below the FY 1981 level, staffing was decreased by about 200 during late FY 1981. This decrease in staffing at ORNL in late FY 1981 was accomplished using the same procedures as are planned for the reduction in force this fiscal year. The 200 decrease was accomplished entirely by voluntary means.

Through February of 1982, ORNL had achieved a further staffing reduction of approximately 100 by attrition, again in anticipation of future funding levels as well as impact of FY 1982 cost of living increases not received.

In March of this year some decisions on ORNL staffing had to be made. Those included identification of various ORNL program areas likely to be impacted by FY 1983 budget cuts, and planning for available options to maximize overall laboratory capability. At that time, it was anticipated that 400 employees would be laid off by the end of the current fiscal year.

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In early May, ORNL announced the layoff in order to afford its employees in affected groups the maximum opportunity to consider employment in other parts of the Union Carbide Corporation-Nuclear Division or elsewhere and to trigger the opportunity for voluntary reduction in force -- both actions will markedly reduce the size of required involuntary separations.

By mid-May, 67 ORNL employees had already availed themselves of voluntary reductions-in-force, and we expect that this number will increase to a total of 125.

By early June, when the impact of voluntary separations has been analyzed, the involuntary termination RIF notices will be sent to affected employees. These employees will have to leave the rolls during September 1982. Because of this advance planning and early notice to employees, we now expect that involuntary separations at ORNL will be held to less than 200 employees. Under the DOE contract, Carbide employees who are involved in a reducton-in-force, either voluntarily or involuntarily, receive a substantial termination allowance. These termination allowances will average between three and four months pay depending upon the tenure of the employees who are separated.

Should ORNL delay beyond August 1 for voluntary separations and early September for involuntary separations, we would risk not having sufficient FY 1982 funds to pay termination allowances in several programmatic areas. Thus, the departure dates are directly related to available FY 1982 funds.

ORNL management has given its employees as much notice as is possible, and, in fact, is providing better than six weeks notice for involuntary separations.

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Should the decision to terminate employees in FY 1982 be delayed until FY 1983, the payment of termination costs in FY 1983 would make the funding situation more severe and could require termination of additional employees. The ORNL decision and actions have been delayed as much as possible without running an unacceptable risk of making the layoff even more serious.

Our planning approach does encompass the ability to react to any concurrent budget actions or changes that may occur in program and project direction as late as August 31. If mitigating actions materialize prior to that time, it is certainly our intent to make the approriate adjustments.

The programmatic impacts of these staffing reductions at ORNL will be discussed in more detail by Dr. Herman Postma, Director of ORNL, who will testify before this committee.

We believe the early steps we have taken are both prudent and conservative, embracing an overriding concern for the individual employee. Employment in our programs in Oak Ridge is the major economic force for the city as well as the area and for this reason we must be candid and "up front" in the public arena with our projections for any likely impact on area employment. The economy of the area is tied too closely to the Oak Ridge DOE programs for us to do otherwise.

This concludes my testimony. I'll be pleased to answer any questions.

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BIOGRAPHY

R.J. HART
Manager, Oak Ridge Oeprations
Department of Energy
Oak Ridge, Tennessee

Robert J. Hart, a veteran of more than 35 years of combined military and civilian service with the Federal Government, is Manager of the Department of Energy's (DOE) Oak Ridge Operations -- a major field office of the agency.

Hart, who began his Federal civilian service with the former Atomic Energy Commission (AEC) in 1948, was named Manager of Oak Ridge Operations in February of 1982 after serving as Deputy Manager of the Richland (Washington) Operations Office for some four years.

As Manager of Oak Ridge Operations, Hart is responsible for programs and projects involving the production of special nuclear materials, including the enrichment of uranium and other related activities, and the administration of a broad range of production and research and development programs related to nuclear, fossil, and other energy initiatives.

The combined activities of Oak Ridge Operations have an annual operating budget of $2.1 billion in Fiscal Year 1982 and are accompanied by a facility design and construction program of over $900 million for the same period. Revenues from these operations, primarily from uranium enrichment, will be $1.8 billion for the fiscal year.

The major facilities managed by the Oak Ridge office represent an investment of some $6.3 billion at acquisition cost with a replacement value of approximately $20 billion. These facilities are located in a number of states and Puerto Rico, and provide employment for some 28,000 people. Of that total, only about 600 are DOE employees.

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The major production and demonstration projects for which he is responsible include construction and operation of the Gas Centrifuge Enrichment Plant at Portsmouth, Ohio, estimated to cost in excess of $6 billion.

Hart began his civilian career in the AEC Oak Ridge Operations Office. He served at AEC Headquarters from 1953 to 1967, except for a brief period in 1954 and 1955 with private industry, in a variety of administrative and management positions including that of Deputy Director of the Division of Contracts. Prior to joining the Headquarters staff, he had been assigned to the AEC's Savannah River Plant in South Carolina since 1950.

He has received a number of awards over the years in recognition of his outstanding performance, including an award in 1979 from the Department of Energy Under Secretary recognizing his effective management and leadership. Hart's most recent award was the Presidential rank award of Meritorious Executive in the Senior Executive Service.

Hart received a degree in Political Science from Colgate University in 1948 and also did undergraduate work in science and engineering at Cornell University and Montana State College. He served in the U.S. Army from 1942 to 1945. He is married to the former Barbara Clinies of Ithaca, New York. They have four children.

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Mr. FUQUA. Thank you, Mr. Hart.

We will next hear from Mr. La Grone.

Mr. LA GRONE. Mr. Chairman, Madam Chairman, I am pleased to be here today before the distinguished members of the subcommittees to discuss the effects of the proposed fiscal year 1983 budget on the San Francisco Operations Office and the programs we manage.

I have submitted a statement for the record. With your permission, Mr. Chairman, I would like to summarize that at this point.

Mr. FUQUA. We will make all the statements in their entirety a part of the record.

Mr. LA GRONE. Thank you, sir.

We are responsible for managing a broad range of programs and institutions. We have major roles in defense, energy research including magnetic fusion, nuclear, as well as renewable energy R&D programs.

As a part of this, we also manage a number of Government-owned, contractor-operated laboratories such as the Lawrence Livermore Laboratory, the Lawrence Berkeley Laboratory, the Stanford Linear Accelerator Center, and the Energy Technology Engineering Cente.. We also manage three biomedical laboratories.

This year, fiscal year 1982, on the Federal side we are managing our work with about 325 full-time equivalent employees. We have submitted for the record information showing the breakdown of the program mix and also by major contractors. The largest of those contractors is the Lawrence Livermore Laboratory, and the largest program activity is in the defense area.

As has been mentioned by other DOE witnesses today, there is a study underway by headquarters and the operations offices to determine what the staffing level for field offices should be in fiscal year 1983. We have not taken any actions at the San Francisco office in fiscal year 1982 such as an actual reduction in force that has been directed toward achieving the fiscal year 1983 ceilings until final action is taken on the fiscal year 1983 budget.

As Dr. Shirley noted, the situation at his laboratory is a bit different, and planning has been initiated, but no actions have been taken to lay off employees. The planning has been initiated and, in our judgment, that is the responsibility of a prudent manager.

In terms of how the present budget impacts our situation at the San Francisco Operations Office, particularly with respect to program and project management responsibilities, I am happy to report that I believe for the fiscal year 1982 the Federal staffing levels at SAN are sufficient.

For example, we have completed the construction of the solar 10-megawatt pilot plant at Barstow, Calif. It is in operation. As of last week, it was producing an average of about 8 to 9 megawatts of power a day and going into the utility grid.

Many of our engineering systems of the fusion test facility at Livermore have been completed, including the large superconducting magnet. They have been tested and construction of the MFTF-B systems is continuing. The conventional construction for the NOVA laser fusion facility at Livermore is nearly complete and fabrication of the laser equipment is underway.

We have also completed cycle III of the schools and hospitals conservation program and there have been no significant delays in awarding other conservation grants.

We believe we are also making steady progress in other areas of defense, energy research, and the nuclear areas.

This concludes my summary, and I would be pleased to respond to any questions the committee has.

[The prepared statement of Mr. La Grone follows:]

TESTIMONY OF JOE LA GRONE, MANAGER OF THE DOE
SAN FRANCISCO OPERATIONS OFFICE BEFORE THE SUBCOMMITTEES
ON ENERGY DEVELOPMENT AND APPLICATIONS AND
ENERGY RESEARCH AND PRODUCTION

I am pleased to be here today before the distinguished members of these subcommittees to discuss the effects of the proposed FY 83 budget on the San Francisco Operations Office and the programs we manage.

The SAN Francisco Operations Office is responsible for managing a broad range of programs and institutions. We have a major role in Defense, Energy Research including Magnetic Fusion, Nuclear, and renewable energy R&D programs. In carrying out these program responsibilities we manage several major Government Owned Contractor Operated (GOCO) laboratories and industrial contractors. The major GOCO laboratories include Lawrence Livermore National Laboratory, Lawrence Berkeley Laboratory, the Stanford Linear Accelerator Center and the Energy Technology Engineering Center. We are also responsible for three biomedical laboratories--the Laboratory of Biomedical and Environmental Sciences (University of California at Los Angeles), the Laboratory of Energy Related Health Research (University of California at Davis) and the Laboratory of Radiobiology (University of California at San Francisco).

To carry out the SAN mission, we have a Fiscal Year 82 Federal employee ceiling of 325 full time equivalents (FTEs). The laboratories mentioned above employ approximately 12,000. Our total Fiscal Year 82 budget is $1050M and is displayed graphically in the pie charts of Attachments 1 and 2. The first shows the breakdown of the Fiscal Year 82 budget by program area and the second shows the breakdown by institution. As is indicated in these charts the largest program area at SAN is Defense Programs, and the largest laboratory for which we are responsible is the Lawrence Livermore National Laboratory.

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In preparing to carry out the program contained in the Fiscal Year 83 budget, within the budgeted staffing levels, a joint Headquarters/Field comprehensive Operations Office Staffing Study has been initiated. The purpose of this study is to:

- Develop options for accomplishing the Fiscal Year 1983 and subsequent year programs, within the staffing and funding levels provided. Included are options for reallocation of staffing, possible restructuring of the missions, organization, and workloads at the operations offices and Headquarters program offices, examination of project management capability and options for further contracting out.

We will not take any actions at SAN in Fiscal Year 1982 such as an actual reduction in force directed toward achieving the FY 1983 ceilings until final action is taken on the Fiscal Year 1983 budget.

The situation at the laboratories is somewhat different. To plan for orderly reductions where required, the laboratories have estimated the impacts of the proposed Fiscal Year 1983 budget on their staffing levels.

These laboratory estimates are contained in Attachment 3. In order to avoid having to use Fiscal Year 1983 funds to pay severance costs, and thereby increase the magnitude of required cuts, these laboratories must complete their detailed planning for potential reductions in the near future. Rather than dwell on this issue, I will leave further discussion of laboratory impacts to Dr. David Shirley, Director of the Lawrence Berkeley Laboratory. The staffing effects he will discuss are similar in impact to those reductions that will also be experienced by the biomedical laboratories for which SAN is responsible.

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With respect to your question about the impact of the present budget situation on the implementation of SAN's program/project management responsibilities, the Federal staffing levels at SAN are sufficient. For example, construction of the Solar 10 Mw Plant in Barstow, California, has been completed and acceptance testing is underway. Many of the engineering systems of the Mirror Fusion Test Facility at LLNL (including the large super conducting magnet) have been successfully tested and construction of MTTF-B systems is continuing. The conventional construction for the NOVA Laser Fusion Facility at LLNL is nearly complete and fabrication of the laser equipment is underway. We have also completed Cycle III of the Schools and Hospitals Conservation Program and there have been no significant delays in awarding other conservation grants. In the Defense, Energy Research and most Nuclear areas, steady progress is also being maintained.

This concludes my prepared statement. I would be pleased to respond to any questions the subcommittee may have.

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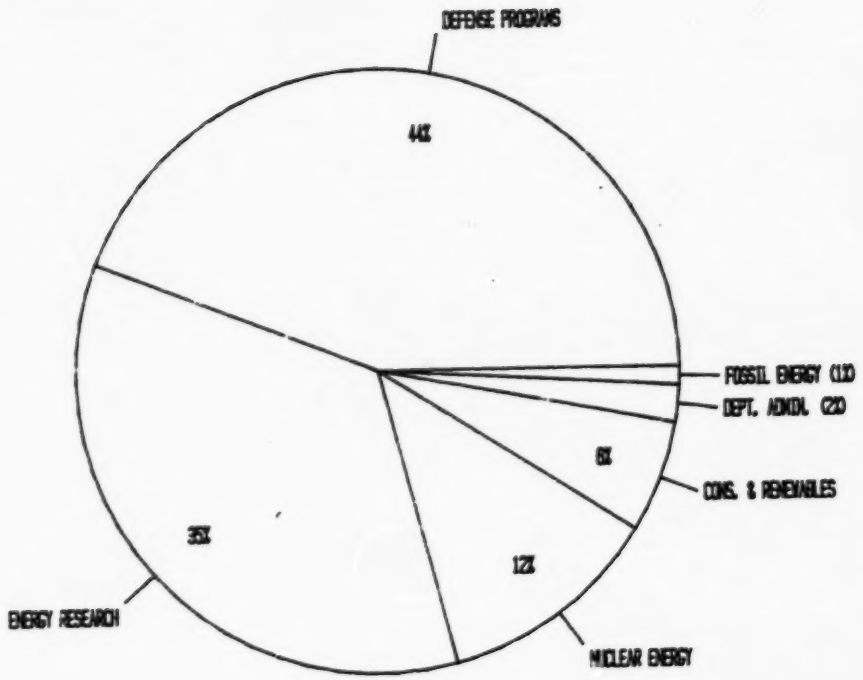
ATTACHMENT 1

FY82 SAN BUDGET

BY PROGRAM



TOTAL FY82 BUDGET: $1050M

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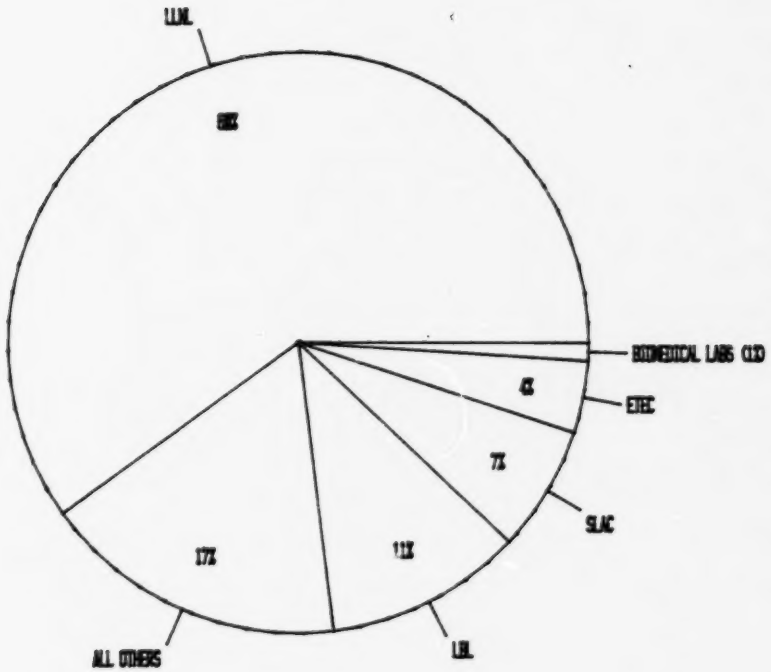
ATTACHMENT 2

FY82 SAN BUDGET

BY CONTRACTOR



TOTAL FY82 BUDGET: $1050M

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Attachment 3

Estimated Staffing Levels at SAN Laboratories

Laboratory	Staffing Level (FTE) FY 1982	Proposed FY 1983
Lawrence Livemore National Laboratory	7394	7120
Lawrence Berkeley Laboratory	2605	2110
Stanford Linear Accelerator Center	1270	1300
Energy Technology Engineering Center*	560	493
Lab for Energy Related Health Research (UC Davis)	55	40
Laboratory of Radiobiology (UCSF)	43	37
Lab of Biomedical and Environmental Sciences (UCLA)	75	64

*Includes support staff

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BIOGRAPHY

JOE LA GRONE
Manager, San Francisco Operations
Department of Energy
Oakland, California

Joe La Grone was appointed Manager of the Department of Energy's San Francisco Operations Office (SAN) on August 11, 1978. SAN, with an annual budget of approximately $1 billion, is responsible for the management, coordination, and support of programs and projects involving weapons research and development, basic research, and research and development in all energy technologies.

From February 10, 1981 to October 5, 1981 he served in a dual capacity as Acting Deputy Under Secretary and later as Acting Under Secretary. In September 1980 La Grone received a Distinguished Executive Service Award from the President. In 1981 he was the recipient of the Department's Exceptional Service Award and was also presented an award for Special Act of Service by Secretary James B. Edwards.

La Grone joined SAN of the former Energy Research and Development Administration as an Assistant Manager in 1975. He is a 1959 graduate of Panola Junior College and was a 1961 honor graduate Magna Cum Laude of Centenary College of Louisiana. While at Centenary he received a Woodrow Wilson Fellowship and later pursued graduate studies at the University of Wisconsin in 1961-1962.

La Grone began his Federal career in 1962 as a management intern with the Atomic Energy Commission in Albuquerque, New Mexico and later held a number of positions including Special Assistant to the Assistant General Manager for Administration in the Washington, D.C. Headquarters Office.

In 1972-1973, La Grone was a Congressional Fellow under a program sponsored by the Civil Service Commission and the American Political Science Association. He served on the staff of former Congressman Craig Hosmar (R) of California and on the staff of the Joint Committee an Atomic Energy.

A native of Deadwood, Texas he is married to the former Peggy McDaniel of Rockhill, Texas. They have three children - Paige, Dana and Jeff - and live in Danville, California.

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Mr. FUQUA. I notice in part of your statement you referred to the fact that no reductions will take place until final action is taken on the budget. Assuming we complete action on the budget resolution, and we can't take up appropriations bills until after that is complete, but that we do conclude the budget action and the appropriation bill is at a level somewhat similar to the level that was contained in the Senate-passed budget resolution, would you then have to continue with your contingency plans on reductions in force?

Mr. LA GRONE. Are we talking now, Mr. Chairman, if I may get a clarification, with respect to Federal employees or laboratory employees?

Mr. FUQUA. Laboratory employees.

Mr. LA GRONE. In terms of the laboratory employees, Dr. Shirley is continuing his assessment of what the 1983 situation would look like and we have had conversations over the course of this fiscal year in terms of "what if" type scenarios.

It is my understanding, as stated in his testimony, he would obviously like to know what the budgetary situation is by June 15. Whether that materializes or not is a question I cannot answer; but it would be his expectation, I believe, that some time probably in August, maybe early September, he would have to start moving toward taking some of those actions. That is his best estimate as I understand it at this point in time.

Mr. FUQUA. Mrs. Bouquard?

Mrs. BOUQUARD. Thank you, Mr. Chairman.

What role do you play in determining laboratory personnel reductions? Do you give any written guidance for contract reductions?

Mr. LA GRONE. No. Once we start iterations with the headquarters component of the Department, the Operations Office, and the laboratory in terms of what the budget is for a given fiscal year, we then look to the manager or the director of that laboratory to take that budget and determine, first of all, at what levels he feels he should pursue programs during the coming year—those programs that are being continued.

As a part of that, he has to look not only at numbers, but at the appropriate skill mix of people. He has to look at the long-term commitments that have been made, particularly if they involve construction of test equipment and facilities.

So we discuss back and forth what will happen if this particular level materializes, but in terms of that day-to-day decisionmaking, in terms of numbers and skill mix, we look to that laboratory director to make those decisions. That is why we hired him.

Mr. FUQUA. Thank you very much, Joe. You may be excused.

Mr. LA GRONE. Mr. Chairman, I appreciate your courtesy and thank you very much.

Mr. FUQUA. We will next hear from Mr. Bauer.

Mr. BAUER. Mr. Chairman, Madam Chairman, and members of the subcommittees, I want to thank you for this opportunity to testify. I would only at this point like to ask that my prepared statement be put in the record and I will paraphrase parts of it and summarize, but I think much of what I have to say you have already heard.

Mrs. BOUQUARD [presiding]. Without objection, your statement will be made a part of the record.

Mr. BAUER. You have heard, and I reiterate, there is a very real need for us as managers both for our office and in our supervisory contracting role with the laboratories to encourage and participate in the planning and consideration of options with regard not only to manpower but to indirect costs and other resource allocations that could result from a variety of budget options.

We need to do this aggressively in terms of dedication to the problem, but keeping in mind that the budget process is not completed until Congress acts. We intend to delay any action until the last possible moment.

You have heard the delay in most cases would aggravate a reduction problem.

I am responsible, as Contract Administrator, for not only Brookhaven, from whom you have heard testimony here today, but the Argonne National Laboratory, the Ames Laboratory, and several major single-purpose laboratories.

We are dedicated to assuring the continuity of programs and productivity, and this requires us to work collaboratively with each of these organizations to insure their long-term vitality.

I think the single most important and helpful thing would be early resolution of this budget uncertainty.

I will be pleased to answer any questions.

Mrs. BOUQUARD. Thank you very much, Mr. Bauer.

[The prepared statement of Mr. Bauer follows:]

STATEMENT OF ROBERT H. BAUER, MANAGER, CHICAGO OPERATIONS OFFICE, DEPARTMENT OF ENERGY

Mr. Chairman, Madam Chairman, and Members of the Subcommittees:

Thank you for the opportunity to testify today on "Impacts of Budget Uncertainty on the DOE National Laboratories." As you requested, I will respond to questions posed in your May 13, 1982, letter.

In response to your concerns about the Department of Energy's policy pertaining to personnel actions in view of budget uncertainties, the Chicago Operations Office will take no final reduction-in-force actions toward achieving the FY 1983 ceilings until Congress and the President take action on the FY 1983 budget. In the interim, we will be examining options based on DOE Headquarters' projections and continue planning for potential impacts so that we are prepared to take appropriate actions once the FY 1983 budget is finalized.

One of my primary responsibilities as Manager of DOE's Chicago Operations Office is management of three multi-program and a number of single-purpose laboratories. We are prepared to act in accordance with the final action on the FY 1983 budget to balance our resources and follow through with any necessary management actions. Whether these final decisions involve the progressive, orderly reduction or phaseout of specific programs, the continuation of programs at current funding levels, or other agreed upon alternatives, we are prepared to implement them.

We are assessing those options available to us and planning for a smooth transition into the forthcoming fiscal year. Our ultimate goal is to insure that our laboratories are in a position to conduct continuous technical and budgetary

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program planning with the least possible impact on productivity in our major research efforts.

Two of our multi-program laboratories will experience budget cutbacks, reflecting our redirected FY 1983 mission focusing on long-term, high-risk, potentially high payoff research and development activities. The FY 1983 funding level for Argonne National Laboratory is estimated at $198 million as compared to $228 million in obligational authority for FY 1982. A number of programs are being phased out in an orderly fashion, and less important program elements have been reduced or eliminated to maintain an effective viable program with available resources.

In keeping with this redirection of research and development activities, Ames Laboratory's FY 1983 funding level is estimated at $17.2 million compared to $17.5 million for FY 1982. Applied research will be reduced, and Basic Energy Science activities will be increased consistent with the Administration's view of the appropriate Federal role in reasearch and development.

Brookhaven National Laboratory's obligational authority for FY 1982 is $183 million; funding for FY 1983 is estimated at $187 million. The FY 1983 budget contains increased funding for R&D in the development of the new cabletype superconducting magnets, the High Flux Beam Reactor, the National Synchrontron Light Source, and the Alternating Gradient Synchrontron. Brookhaven has reduced staffing by approximately 10% and additional reductions are anticipated. A comprehensive plan to reduce manpower and other costs is currently being developed.

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Brookhaven's Biological Sciences, Environmental Research and Development, Fossil Energy, Energy Storage Systems, Solar Energy, and other program areas have reduced estimated funding levels for FY 1983. Some increases are are anticipated in High Energy Physics, Nuclear Physics, Materials Sciences and Chemical Sciences, Life Sciences Research and Nuclear Medicine Applications.

We and our laboratories are aggressively executing assigned program responsibilities. We are actively engaged in assessing impacts and formulating plans which result in the maintenance of strong research and development programs within prescribed objectives. We anticipate additional changes in programs at many of our laboratories and, with them, we are laying the groundwork so that we are in a positon to proceed early this summer.

In terms of those programs and projects managed directly by my staff at Chicago Operations, we are actively assessing the potential impacts with the goal in mind of redirecting the efforts of our research and development teams in line with program needs. We intend to assure that the long-term, high-risk research and development work carried out under Chicago Operations is managed for the highest possible productivity and benefit to the nation.

The Chicago Operations Office and its associated laboratories are faced with a multitude of challenges and opportunities. In pursuing those activities appropriate to the Federal role, we will do our best to ensure an orderly transition in a manner consistent with policy and guidance. An early decision on the FY 1983 budget would help assure that we meet this goal.

This completes my testimony. I will be pleased to answer questions.

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BIOGRAPHICAL SKETCH

ROBERT H. BAUER
MANAGER
CHICAGO OPERATIONS OFFICE

Robert H. Bauer serves as the Manager of the Department of Energy (DOE) Chicago Operations Office and is responsible for the administration of more than $1.8 billion in federal energy research and development, state and local assistance, and related activity, carried out under more than 2500 contracts and grants.

Contracts administered by Chicago Operations involve energy research and development carried out by major national laboratories, universities and private industry in 50 states and several foreign countries. Grants-in-aid to state and local governments and related programs involve the 19 states in standard Federal Regions I, II, III, and V, located in the East, Northeast, and Midwest.

Major facilities whose prime contracts are administered by Chicago Operations include: Ames Laboratory, Ames, Iowa; Argonne National Laboratory, Argonne, Illinois; Brookhaven National Laboratory, Upton, New York; Fermi National Accelerator Laboratory, Batavia, Illinois; Princeton Plasma Physics Laboratory, Princeton, New Jersey; the Solar Energy Research Institute, Golden, Colorado; and several others. Chicago Operations' approximately 605 employees are located at more than a dozen sites across the nation. About 375 are located at the main office near Chicago.

Bauer, 54, was born and reared in Chicago. He graduated from the University of Illinois in 1950 with a degree in political science and did post graduate work in public administration at the University of Chicago.

Bauer entered Federal service as a management intern in the Department of the Navy in 1951. He joined the U.S. Atomic Energy Commission (AEC) in 1955 as a budget examiner and was named Assistant Controller for Budgets in 1971. In 1972 he was named Manager of AEC's Chicago Operations Office. In 1975 this office became part of the U.S. Energy Research and Development Administration (ERDA). The Department of Energy assumed ERDA's responsibilities in October 1977.

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Mr. Bauer was named to the dual role of manager, Chicago Operations, and Regional Representative of the Secretary in June 1978. In January 1979 the operations and regional activities were merged into the Chicago Operations and Regional Office under Mr. Bauer's leadership.

In April 1981, Secretary of Energy James B. Edwards announced a realignment of DOE's field structure designed to improve the organization and efficiency of the Department's diverse field activities. Chicago Operations assumed the responsibilities for DOE's regional activities carried out in Regions I, II, and III, in addition to its existing responsibilities in Region V. Chicago also became responsible for DOE's Columbus (Ohio) Program Office, involved with the National Waste Terminal Storage Program and the Environmental Measurements Laboratory in New York.

Mrs. BOUQUARD. We will now hear from Mr. Fremling.

Mr. FREMLING. Madam Chairman, I am pleased to have this opportunity to appear before you today to discuss the effects of the proposed fiscal year 1983 budget on the Department of Energy operations at Hanford. In doing so, I will highlight my prepared statement.

As Manager of the Richland Operations Office, I am responsible for the management of the 570-square-mile Hanford site, the performance of assigned energy and defense programs at Hanford, and representation of Department interests in the States of Washington, Oregon, and Alaska.

Our work at the Hanford site involves approximately 350 Federal employees in the Richland Operations Office and 11,200 employees of the 8 major on-site Hanford contractors.

Nearly half of our budget is devoted to defense programs, a little over a quarter of the budget to breeder reactor development, and the remainder to a variety of energy research and development programs.

The total budget for the Richland Operations Office programs in fiscal year 1982 is approximately $740 million. Our best estimate indicates that the Hanford portion of the President's budget for fiscal year 1983 is approximately $725 million.

If the fiscal year 1983 Presidential budget is passed by the Congress, the major decrease at Hanford would be in the Liquid Metal Fast Breeder Reactor program from a level of $198 million to $107 million.

A second significant reduction in Hanford funding relates to the proposed discontinuation of the $105 million Fusion Materials Irradiation Test Facility. The proposed reductions in breeder and fusion funding would result in a total decrease in Hanford Engineering Development Laboratory employment from a current level of 2,300 to about 1,700, some 600 positions. This laboratory is operated for the Department by Westinghouse.

At the fiscal year 1983 budget level, the Pacific Northwest Laboratory multiprogram energy research and development funding would be reduced from $135 million to $125 million. This laboratory's employment would be reduced from a current level of 1,800 to

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1,600, a decrease of approximately 200. The Pacific Northwest Laboratory is operated for the Department by Battelle Memorial Institute.

Partially offsetting these decreases in the two laboratories will be increases we will be experiencing in the defense production and defense waste management functions. These increases will total an estimated $80 million and 250 employees. These new positions in many cases require different skills than those of the employees who would be terminated by the laboratory.

To date, the two laboratory contractors, Westinghouse and Battelle, have been developing plans for implementing the fiscal year 1983 budget guidance.

With regard to Federal employment, our office, like the other offices, is participating fully in the agency-wide study currently under way to develop staffing options for accomplishing fiscal year 1983 programs. We await its outcome and the Secretary's determination of workload and resources for the Richland Operations Office.

We have not been effecting any reductions in force in Federal employees in fiscal year 1982, nor do we intend to do so. We have, however, taken a number of steps to optimize the use of our existing personnel, since we have had to continue to manage a growing Federal workload without a commensurate increase in Federal employment.

This concludes my statement. I would now be pleased to answer any questions you might have.

[The prepared statement of Mr. Fremling follows:]

Statement
by
Alex G. Fremling
Manager, Richland Operations Office
before the
Subcommittees on Energy Development &
Applications and Energy Research & Production
of the
House Committee on Science and Technology

June 2, 1982

Mr. Chairman, Madam Chairman, members of the Subcommittees, I am pleased to have this opportunity to appear before you today to discuss the effects of the proposed 1983 budget on Department of Energy operations at Hanford. In my statement, I am including essential background information as well as responding to the specific questions directed to me by the Subcommittees in the letter inviting me to testify.

As the Manager of the Richland Operations Office I am responsible for:

- Management of the 570 square mile Hanford Site.
- The safe, secure, environmentally sound and cost effective performance of assigned energy and defense programs at Hanford including:
  - Production of special nuclear materials for national defense;
  - Management of defense wastes;
  - Operation of the Fast Flux Test Facility (FFTF) and other activities in support of the national fast breeder reactor program;
  - Management and disposal of spent fuels and radioactive wastes from commercial nuclear power plants;
  - Energy technology, research and development; and
  - Biomedical and environmental research.
- Representation of Department interests in the States of Washington, Oregon, and Alaska.

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Our work at the Hanford Site involves approximately 350 FTE direct Federal employees in the Richland Operations Office and an authorized level of 11,200 employees for the eight major onsite Hanford contractors. As Enclosure 1 to my prepared statement, I have included a chart showing the Hanford contractors, brief statements of their contractual responsibilities, the numbers of their employees and the Hanford organizational relationships.

As Enclosure 2, I have included a pie chart showing the FY 1982 budget broken down by major program areas. Nearly half of our budget is devoted to defense programs, a little over a quarter of the budget to breeder reactor development, and the remainder to a variety of energy research and development programs.

The total budget for Richland Operations Office progrms in FY 1982 is approximately $740 million. We do not yet have definitive guidance from all Headquarters program elements as to FY 1983 Hanford funding, but our best estimates indicate that the total budget will be approximately $725 million.

The third enclosure to my prepared statement shows program by program comparisons of FY 1982 and 1983 budgets and personnel levels.

If the FY 1983 Presidential budget is passed by the Congress, the major decrease at Hanford would be in the Liquid Metal Fast Breeder Reactor Program, from a level of $198 million to $107 million. Given this funding, the Fast Flux Test Facility (FFTF), which began its first full power operating cycle in April, would continue its testing mission; however, there would be a reduction in the range of FFTF experiments and a significant decrease in fuel development work in the Hanford Engineering Development Laboratory. As a part of realignments in the national Liquid Metal Fast Breeder Reactor Program, there would also be a

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change in mission for the Fuels and Materials Examination Facility (FMEF), scheduled for completion in FY 1984. Equipment for post-irradiation examination of FFTF fuels will not be installed as specified in the project data sheet and the examination work will, instead, be performed at Idaho. The Secure Automated Fabrication line for plutonium fuels for the breeder program will be completed. A second significant reduction in Hanford funding relates to the proposed discontinuation of the $105 million Fusion Materials Irradiation Test Facility (FMIT). This facility is funded at a $14 million level in FY 1982 and currently employs 100 Westinghouse Hanford Company personnel plus approximately 70 employees of the Los Alamos National Laboratory, which is designing and fabricating the accelerator for the FMIT.

The proposed reductions in breeder and fusion funding would result in a total decrease in Hanford Engineering Development Laboratory employment from a current level of 2,300 to about 1,700, some 600 positions.

At the FY 1983 Presidential budget level, Pacific Northwest Laboratory (PNL) multi-program energy research and development could be reduced from $135 million to $125 million. PNL's employment would be reduced from a current level of 1,800 to 1,600, a decrease of approximately 200. The most significant reductions would be in the Conservation and Renewable Energy and Energy Research programs. PNL is operated for the Department by Battelle Memorial Institute.

Partially offsetting the decreases in Hanford laboratories will be increases in budgets and personnel for defense programs at UNC Nuclear Industries and Rockwell. These increases, which will total an estimated $80 million and 250

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employees, relate primarily to our conversion of N Reactor to a weapons production mode and to the scheduled restart of the PUREX plant in 1984. It should be noted that these new positions, in many cases, require different skills than those of the employees who would be terminated by the Laboratories.

To date, Westinghouse and Battelle have been developing plans for implementing the FY 1983 budget guidance. These plans include development of more accurate forecasts of personnel requirements and procedures to effect any reductions that may be necessary. The contractors have been using and will continue to use attrition to minimize the need for reductions-in-force.

If we are to limit the size of the reductions in laboratory personnel to those I have described, the terminations should be effected by the end of the fiscal year. Delays beyond September 30, 1982, in reductions could require the use of FY 1983 funds to pay termination costs and may necessitate larger reductions.

With regard to the Committee's question on the impact of a continuing resolution--the reductions anticipated at Hanford may likely occur before the Congress has had adequate time to enact such a resolution.

Costs associated with potential reductions-in-force are currently being developed as a part of the contractors' planning process discussed earlier. We do not yet have definitive estimates and accurate cost data probably cannot be determined until total payments have been made.

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With regard to Federal employment, we are participating fully in the Operations Office study currently underway to develop options for accomplishing FY 1983 programs and await its outcome and the Secretary's determination of workload and resources for the Richland Office. In addition, efforts are currently directed towards developing plans in the event that a Federal employees reduction-in-force is necessary in FY 1983. We have also taken a number of steps to optimize the use of our existing personnel since we have had to continue to manage a growing Federal workload without a commensurate increase in Federal employment.

Mr. Chairman, Madam Chairman, I have completed my testimony. I would be pleased to answer any questions.

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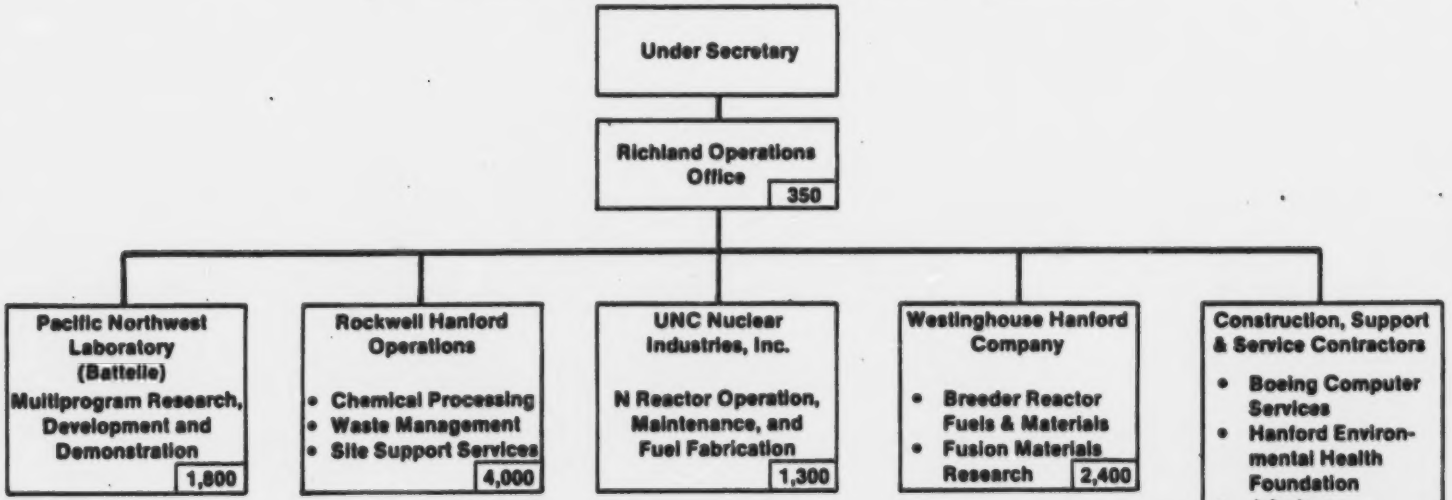
Enclosure 1

HANFORD ORGANIZATIONAL RELATIONSHIPS



Department of Energy	350
Operating Contractors	9,500
Service & Support Contractors	1,700
	11,550

88112-9.2

Enclosure 2

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Richland Operations Office

FY 1982 Funding (in millions)

Operating	$583 M
Capital Equipment	49 M
Construction	107 M
Total	$739 M

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Enclosure 3

U.S. DEPARTMENT OF ENERGY FUNDING
RICHLAND OPERATIONS OFFICE PROGRAMS
($ in Millions)

Program/Project	FY 1982 Funding	FY 1982 Employees	FY 1983 Presidential Budget Funding	FY 1983 Presidential Budget Employees
Liquid Metal Fast Breeder Reactor/FFTF, FMEF	$198	2,275	$107	1,700
Fusion Energy R&D/Fusion Materials Irradiation Test Facility	18	125	3	25
Defense Programs	324	3,950	403	4,200
Commercial Nuclear Waste/ Basalt Waste Isolation Project	57	775	87	800
Other Programs	142	1,450	123	1,250
Support Services	Incl. Above	2,625	Incl. Above	2,300
Total - Contractors	739	11,200	723	10,275
DOE Program Direction and Administration	Incl. Above	350	Incl. Above	?
TOTAL RL PROGRAMS	$739	11,550	$723	?

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Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

Biography

Alex G. Fremling

Manager, Richland Operations Office

Alex G. Fremling, Manager of the Department of Energy's (DOE) Richland Operations Office, was appointed to this position in September 1973. As Manager, he is responsible for DOE Hanford activities involving site management, production of nuclear materials, management of defense wastes, commercial nuclear fuel cycle research and development, and other aspects of energy research, development and demonstration.

Fremling was born in Brainerd, Minnesota, where he graduated from Washington High School in 1949. He subsequently attended Carleton College, Northfield, Minnesota, as a Baker Scholar, graduating cum laude in 1953. He attended Washington University (St. Louis) School of Law in 1953-54 and served as a Machine Accounting Specialist in the U. S. Army in 1954 and 1955. He received his M.A. degree in Political Science from the Graduate School of the University of Minnesota in 1957.

In 1957, Fremling entered the Atomic Energy Commission's (AEC) Management Intern Program and was assigned to the Division of Inspection in Washington, D. C. From 1958 to 1963, he was engaged in contract negotiation and administration work at the AEC's Chicago Operations Office until named in 1963 as Assistant to the Assistant Manager for Administration.

Fremling returned to Washington, D. C., in 1965. He served at AEC Headquarters as Contracts Management Specialist and as Special Assistant to the Assistant General Manager for Operations prior to his appointment as Special Assistant to AEC Commissioner James T. Ramey in 1969. In February 1972, Fremling was named Deputy Manager of the Richland Operations Office, a post he held until being named Manager.

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BIOGRAPHY - FREMLING

In 1977, Fremling was recognized with a special award for his leadership in the Equal Employment Opportunity Program at the Richland Office and he received a 1979 Special Service Award for accomplishments including upgrading the Hanford production and waste management programs. Fremling was given the rank of Meritorious Executive in the Senior Executive Service in 1980 by the President for his consistent superior program management accomplishments. He was one of 18 DOE executives chosen for this honor which carries a $10,000 cash award. In 1981, he received the Secretary of Energy's Outstanding Service Medal for his superior performance as Acting Assistant Secretary for Environmental Protection, Safety and Emergency Preparedness for the Department in Washington, D.C. In 1982, he was the recipient of the President's Medal from Pacific Lutheran University for career accomplishments and church leadership. Fremling authored a comprehensive study of the effects of the Department's Hanford Site on the environment which was first presented to the Richland Kiwanis Club in 1979, and later published in pamphlet form.

Fremling is married to the former Janet D. Berkland of Cylinder, Iowa. The Fremlings have two children, Mitchell (17) and Heather (15), and reside in Kennewick.

# # #

Public Affairs Office
May 1982

Mrs. BOUQUARD. I am sorry we are keeping you all so late; however, I think your testimony has been very valuable and timely.

Mr. Hart, on page 1 of our testimony you refer to an involuntary separation of 1 percent of the total work force of Oak Ridge, at the Oak Ridge complex.

How does your figure of 1 percent, which would be 190, relate to the 400 potential RIF's mentioned by Dr. Postma? Is this reduction due to the fact that the civilian programs are down significantly, while our defense programs are increased?

Mr. HART. Yes, Madam Chairman. That is basically the difference. I am talking about the overall complex, and 1 percent of something like, let's say, 26,000 people. If we are able to do what we are currently doing, getting the job done at the labs by attrition and voluntary separations, then my involuntary number is 1 percent. I don't wish to sound cavalier about that; that can be quite a few people, but it might not be quite as bad as it has been made to sound by the press.

Mrs. BOUQUARD. Basically, you are referring to 400 employees to be laid off, but you anticipate a figure more like 190.

Mr. HART. I am talking about involuntary.

Mrs. BOUQUARD. I am not saying this in a demeaning fashion, but how did we arrive at the number of 400, for my information?

Mr. HART. The number of 400, as Dr. Postma indicated, is the number of jobs to be reduced within the laboratory population and still keep the ongoing work going. Strictly from a relationship to dollars, and very much the same as Mr. La Grone says, this guidance comes down to us from programmatic sources in headquarters.

There is no question but what we have clear guidance. Regardless of the quality, it is quite clear as to what the dollar numbers

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are we can anticipate in each of the major programs. The cuts, when translated to people, come out at 400.

We are very fortunate, though, that if, as has happened in previous years, being able to transfer people, having attrition and getting the voluntary reductions, we can cut the number of involuntary separations in half at least.

Coming back to answering your question, 400 is just a starting place that is a reflection of the dollars contained in what we consider to be the distribution in the President's budget.

Mrs. BOUQUARD. Since we discussed the problem of available fiscal year 1982 funds to pay the termination allowances, shouldn't the laboratory wait until September to take action on the involuntary RIF's? I don't understand why we couldn't delay the announcement until August.

Mr. HART. We could have perhaps delayed the announcement until August, and maybe I wish I had, but at the time we made the announcement you will recall, and you know much better than I do what the public relations system is in our part of the country, we were being tracked very closely and being asked very specific questions with regard to anticipated cuts at the laboratory.

Mrs. BOUQUARD. I share that concern with you.

Mr. HART. Looking back at that, I think there might have been a better way to do it.

Mrs. BOUQUARD. I am not asking this to be argumentative, but just for my own information, looking at the fact that so many of our employees have long tenure at the lab, and you put that against what their termination pay would be, if we should go ahead with the worst possible scenario, what the President's budget figures would be when enacted——

Mr. HART. Except for voluntary reductions and attrition, we are not doing anything that is preemptive. Should the Congress make adjustments and do so between now and, say, the end of August, we have every reason to believe we can track those things.

Mrs. BOUQUARD. Termination pay would be so great for those. I was just asking for my own information, would it not be something to consider, that you really have more to lose, looking at the fact that the President's figures probably won't be our final figure for our energy R&D programs, that the calculated cost is greater going that route?

Mr. HART. If I can take just a minute and explain what happens in this arena of voluntary reductions. A man in the bargaining unit, say a union man, he doesn't move without a pink slip, even though we have a job for him and would like to move him.

A nonexempt, nonprofessional support person is equally employable very often in Y-12, or down in K-25 where we are hiring. The professionals themselves—and this is what we are really talking about—are not at all prone to either accelerate their plans to go back to school, their plans to retire, or whatever, until they are told that there is this possibility.

It is a matter of judgment, but I think in all fairness, when you have these employees of long tenure, you have to say, "This is what it looks like. You make your own judgment call. Do you want to take the separation allowance and go?"

They are not being forced. Dr. Postma is doing a tremendous job in trying to balance this situation.

Mrs. BOUQUARD. I certainly appreciate your efforts in that respect. I was asking the question for my own information and not to cast a reflection upon your operations.

What do you gentlemen feel are your roles and responsibilities for operations offices and headquarters staff in overseeing these large expenditures of Government funds?

Mr. BAUER. That is a short question requiring a long answer.

Our responsibilities encompass a number of functions. Primarily, we are there to discharge those functions that cannot be delegated to a contractor. We are the Government's responsible agent in relation to major contract operations, and as a result of that, there are ramifications in terms of financial control, property management, and labor relations. We also assume that the contractor has policies and implements them.

We also have an institutional responsibility to make sure that we are getting the management we are paying for and the best way we can determine that is to work closely with that management and to understand their problems, to work with them toward solutions and to judge their effectiveness.

Mr. FREMLING. One of the things I would note which has been touched on is the differences in our roles depending on the nature of the programs in which we are involved. In most of the work at the Hanford facility, I am not only the contracting officer but the heads of these contractor organizations also report to me. They receive their program and budget guidance from me, as well as evaluation of their performance. This is not totally true in the case of the multiprogram laboratory. At the Pacific Northwest laboratory we provide program and budgetary guidance for work decentralized to us from headquaters; but in other cases, primarily on the basic end of the research spectrum, they get their guidance directly from headquarters. So the role varies a bit from contract to contract.

Mrs. BOUQUARD. All of you play different roles in determining laboratory personnel reductions.

Mr. HART. They didn't leave much for me to say, but it is kind of like walking a tightrope, trying to be, as Dr. Kerr suggested, part of a partnership and at the same time be the contracting officer and do this with a good, solid, arm's-length relationship, operating in good faith because we and the Secretary, in the final analysis, answer to the Congress, which in turn answers to the people. We are not buffered by a university or a contractor.

Mr. FREMLING. I think there is a commonality, though, in what all of us do with regard to effecting personnel changes, whether it is in a laboratory contract or a conventional GOCO contract in the defense business, and that is that we look to the chief executive of that operating contractor to manage his personnel resources.

We provide him with budget guidance, and certainly we have a consultative role with him, but we don't attempt to manage his personnel resources for him. That is part of what he is paid for under the contract.

Mrs. BOUQUARD. In determining what resources will be needed in the future, do you play a determining role in making recommendations?

Mr. FREMLING. To the extent that we provide a contractor with budget and program guidance, we have started that contractor toward a determination of his resource need, but in terms of deciding what changes he has to make in which departments in order to fulfill the programmatic goals within the guidance we have given him, that is his management responsibility, not ours.

Mrs. BOUQUARD. Is there any subcontracting used by the laboratories to reduce direct-support positions, subcontracting of programs?

Mr. BAUER. Laboratories are not controlled by personnel ceiling allocations. They are controlled by the dollars they are provided, so if they can buy the service rather than staffing it, then they would be subcontracting the effort.

Mrs. BOUQUARD. Then some special hiring could take place in special job categories at this time?

Mr. BAUER. Yes.

Mrs. BOUQUARD. As long as the dollar amount stayed at the lower level.

Mr. BAUER. They are controlled basically by the dollars they have available to them. After one takes off fixed costs of operations like electricity and operating major facilities, the balance of those funds then are available to either hire laboratory employees or to subcontract the work. In those areas where they have the capability, the inclination is to increase in-house staff if that is more cost effective. In certain areas they have a long history of contracting for support services.

Mr. FREMLING. Generally, where a capability exists in the commercial sector which would be needed for a short period of time, we would expect them to go out and procure that expertise, rather than to build up the capability in their own laboratory.

Mrs. BOUQUARD. Would you concur with that?

Mr. HART. Coming back to what Mr. Bauer said, there are things that you can't delegate to a contractor and that you have to do yourself as the Government in this relationship. There are also things that the laboratory in good conscience really can't make a decision to buy from someone else.

They have a reason for being, and if that function falls within their reason for being, we would dissuade them from subcontracting.

Mrs. BOUQUARD. How soon in fiscal year 1983 must the Federal RIF's be announced to achieve the 1983 personnel ceilings at the Operations Offices?

Mr. BAUER. As soon as possible. The basic problem is, we have shifted the way personnel ceilings are allocated within the Federal establishment. For years we have operated on the basis of year-end strength, so you could be anywhere on that curve as long as you hit a June 30 or September 30 figure.

Now you can't generate any more than whatever number we are allocated as ceiling in terms of full-time equivalents. The longer we delay reductions, if that is where the decision takes us, the deeper we have to cut in order to achieve that target number.

Mrs. BOUQUARD. What is legally required when a laboratory executes a reduction in force?

Mr. HART. A laboratory or a Federal office? Are you talking about the laboratory?

Mrs. BOUQUARD. Yes.

Mr. HART. That would depend on the company policy that they would be judged against within the confines of the statutory requirements. They will differ. The University of California versus Union Carbide will differ. Generally there is a responsiveness to things such as length of service and the like, but it varies.

They have a great deal more freedom than we have in the Federal Government for Federal employees.

Mrs. BOUQUARD. I want to thank the witnesses. Your testimony has certainly been excellent today, of the highest caliber.

I want to reassure you again of the commitment that this committee has to the work of our national laboratories, which we all recognize is the lifeblood of our energy research and development programs, and we certainly intend to be as supportive as we possibly can, and we thank you for your efforts.

Our subcommittees are now adjourned.

Thank you.

[Whereupon, at 4:30 p.m. the subcommittees adjourned.]

APPENDIX I

QUESTIONS AND ANSWERS FOR THE RECORD

POST-HEARING QUESTIONS TO THE ACTING DEPUTY UNDER SECRETARY AND OPERATIONS OFFICES OF THE DEPARTMENT OF ENERGY

Question: Given the Administration's commitments to long-term, high-risk research, please explain why the reductions at laboratories like Lawrence Berkeley and Brookhaven will affect not only the energy technology programs, but the basic research activities centered around university user facilities?

Answer: The Administration has strongly supported the Nation's long-term, high risk research, and DOE's basic research programs will increase in FY 83. Even so, individual programs might be reduced in the relative prioritization of all efforts and allow the initiation of new, cutting edge research efforts. The Department recognizes the importance of user facilities to the universities and fully considers these needs in the prioritization program efforts. With the overall prioritization, there will be some reductions in the operation of the user facilities at Lawrence Berkeley Laboratory and at Brookhaven National Laboratory.

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Question: Have you discussed the possibility with OMB that higher budget levels in 1983 might require higher personnel ceilings at the operations offices? Are you prepared to request relief from these levels if the FY 1983 budget levels are increased or a continuing resolution is enacted?

Answer: The Department is closely monitoring developments on the FY 1983 budget and would assess impacts on the Operations Offices of any increases that Congress may ultimately pass and the President approve. Should program funding increases be approved, the Department would develop appropriate manpower needs in coordination with the Office of Management and Budget.

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Question: Since the operations offices report through you as Under Secretary, when do you expect to receive your first briefings on the possible options for field office RIFs?

Answer: At this time no options for Operations Offices RIF's are being developed. I have been briefed on the potential impact of FY 1983 staffing levels on the Operations Offices and I am kept informed generally through normal business communications. I will receive a briefing on the study of FY 1983 Operations Office staffing when it is completed later this summer.

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Question: On page 6 of your testimony again, you refer to examples of necessary federal involvement in R&D without mentioning space or aeronautics. (a) Do you understand the role the federal government has played in space and aeronautics? (b) Don't you feel that the "limits on applied research and technology development activities" you mention are rather narrow? Let me give you a broader example; shouldn't the federal government maintain a significant role in areas where they have had a strong partnership with industry such as aerospace, where the positive effects on the balance of payments alone in terms of billions per year would justify such a federal role?

Answer: In my testimony I was referring primarily to Department of Energy R&D programs. I do appreciate the role which the federal government has played in space and aeronautics, though I am in no position to address the question of the future federal role. DOE does support applied research in several areas, such as fission energy where adequate incentives do not exist due to the regulated nature of the industry. In such cases we maintain a strong partnership with industry with the goal to transfer the complete responsibility to industry as soon as possible.

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Question: Are the government employees in the headquarters and the operations offices role to manage or only administer the contractor National Lab activities?

Answer: Departmental employees determine which programs and areas of research are to be assigned to the laboratories. They further determine the levels of funding to be made available for the research conducted at each laboratory.

The Department's operations office contract managers oversee and administer the provisions of the numerous contracts with each of the laboratories. These personnel, depending on the nature of the research activity and delegated authority from Headquarters, also may provide policy and program guidance to the laboratories. Policy and program guidance for all other activities provided to the laboratories emanates from Headquarters.

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Question: Which areas of energy research and development activities do you think will need long-term support from the federal government?

Answer: Government should continue to support long range, high risk R&D in energy technologies. For example, there will be a long-term need for support of basic research which provides the national technology base for energy science. In addition, the Department's defense-related R&D will need long-term support from the federal government as well as the national trust missions in high energy and nuclear physics which are also important components of the national technology base.

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Question: With respect to the operations offices' FY 1983 staffing levels, those levels appear to be severely below the FY 1982 levels. Are these reductions subject to adjustment, and do you have the capability to adjust them?

Answer: The FY 1983 manpower levels for the operations offices are reduced significantly below FY 1982 levels. The Department has limited flexibility to adjust these levels from within the current FY 1983 manpower request. We are in the final steps of completing a study on FY 1983 manpower requirements for the operations offices. When this study is completed later this summer, we shall have more information on manpower requirements and will address options on how to meet the identified staffing requirements.

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Question: You refer to ongoing comprehensive review of Operations Offices. How will that evaluation be incorporated into the current national laboratory review?

Answer: The Office of Science and Technology Policy has established an Interagency Working Group on federal laboratories as a resource group in support of White House Science Council Laboratory Review Panel. DOE is represented on this Working Group.

The internal review of the Operations Offices' structure, staffing, workloads, capabilities and workloading processes is a management action designed to assist with the effective allocation of manpower resources in conjunction with the FY 1983 assigned workload. Also included will be options for reallocation of staffing, restructuring mission, organization and workloads, project management and further contracting. The study will be completed later this summer.

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Question: With the trend to less funding but more individual project activities, should the government be increasing the number of civil service employees to manage, assess and coordinate the various activities?

Answer: While there is a relationship between the number of individual project activities and the workload required to support them, that relationship is not always directly proportional. The Department believes that its manpower levels are responsive to workload requirements and takes changes in workload requirements into account during the development of its manpower budget requests.

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98-522 O—82——10

Question: What role do operations offices have in determining the laboratory personnel reductions? Have you provided the laboratories with any written guidance for contract reductions at the laboratories?

Answer: It is the laboratory Director's fundamental management responsibility as a contractor to DOE to decide what changes have to be made in which laboratory departments in order to fulfill contractual commitments within the budget guidance. The Operations Offices have provided preliminary programmatic planning and resource guidance to the laboratories based on program and resource levels contained in the President's FY 1983 budget request.

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Question: Does some hiring continue to take place in special job categories during reduction in force proceedings?

Answer: It is possible for hiring to occur during reduction-in-force proceedings. This normally will occur when the skills mix required by the organization cannot be satisfied through reassigning employees who are scheduled to be affected by reduction-in-force actions. If, for example, one program is being reduced and another program is being increased, the employees who are scheduled for separation in the program being reduced may not have the special knowledge or skills required in the other program area. The employees who are adversely affected by a reduction in force are given priority consideration for vacant positions within the Department.

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Question: Can you tell me the difference between the operations offices and the national laboratories with respect to the impact of program reductions?

Answer: Program reductions impact the national laboratories and the Operations Offices to varying degrees. The laboratories are totally program oriented and to the extent funding is reduced for programs with which they are involved, their activities are reduced commensurately.

The Operations Offices perform under a mixed funding arrangement. The preponderance of funding provides for the management oversight and administrative support of programs assigned to the GOCO contractors and to other activities. This level of management activity is not always proportional to program funding changes. The Operations Offices also receive funding for specific program activities. The level of these activities is directly related to the amount of funds received.

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Question: We understand that for some of the laboratories, it may be possible to avoid involuntary reductions in force by delaying purchases of services and materials and spending the money on their most important asset, their technical personnel, and letting natural attrition work. For how many laboratories could this strategy be effective?

Answer: It would be inappropriate for the Department to interfere with the management processes at the laboratories and with the decisions of the laboratory Directors. The concept of the independent research laboratory would be breached.

The Department contracts with a laboratory for research and provides funds for such work. The effective and efficient operation of the laboratory is left to its Director and his management staff. " Purchase delay versus staffing" decisions made by a Director should be the culmination of his analysis of funding and staffing levels that will maintain program execution and work schedule commitments. Since funding and staffing levels and program phases are different at each laboratory, only the Director is in a position to make such a decision.

The Department has confidence in the laboratory Directors and feels that, based on past experience, their decisions will result in continued effective program management.

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Question: Testimony showed that the San Francisco Operations Office manages a $1,050 million budget with 325 people and that Richland manages a $739 million budget with 350 people.

(a) To what extent are such data used as management indices?

(b) What trend in management cost has been noted for all Operations Offices during the past 5 years?

Answer: (a) Budget comparisons are only one of a number of indices that could be used to compare the operations offices. For example, some of the other factors to consider are: number of contractors and contract actions; levels of operating contractor onsite employment; the nature, diversity and complexity of assigned programs; degree of decentralization of programs; site management roles and responsibilities (on-site: engineering, maintenance, health and safety; off-site: industrial/ commercial contractors); and methods of contracting (CPFF vs. incentive or award fee). Since the programs, resource levels and degrees of management oversight and laboratory support assigned to the operations office vary with each office, comparisons relying on the use of only one index would most likely result in misleading conclusions.

(b) Management costs as a component of total program operating funds administered by the Operations Offices over the past five years have tended to decrease.

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Question: The Committee has been extremely concerned about the national laboratories' ability to obtain and retain high caliber scientific personnel.

(a) In times of declining federal expenditures, what do you believe DOE can do to help the laboratories retain personnel under these current circumstances?

(b) Are there any budgetary or accounting steps that DOE or the labs can take that would allow for an orderly continuation of key R&D program activities at the labs?

Answer: (a) The Department shares the Committee's concerns about the laboratories' ability to attract and retain high caliber scientific personnel. However, current budget realities may force staffing reductions at some laboratories.

In the short term, laboratory management and DOE must do everything possible to keep the best people working on interesting and challenging projects and to maintain pay scales that are competitive with other sectors. In the long term, DOE should continue to identify mission areas that fit closely with the expertise of each laboratory thus lending long term stability to the mission areas. This would provide a stable atmosphere that attracts and allows for development of technical expertise at all levels.

(b) Increasing costs and heightened attention by laboratory and DOE management to cost avoidance and strong fiscal controls has resulted in sound budgeting and accounting steps to redirect or continue key R&D programs. The following items would be beneficial; however, many are currently not within DOE's control to implement: earlier budget resolution; reduction in the number of cost ceilings and funding subdivisions that restrict and limit flexibility for overall laboratory operations; and timely baseline planning guidance for the budget and five outyears.

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Question: The question has been raised in the past as to whether reduced program funding levels can be translated into commensurate reductions in staff levels. Reductions in funding could conceivably result in just a reduction in funding for outside contractor personnel. This could prompt the situation where work previously contracted out at greater expense to the government may be performed entirely by laboratory employees under reduced funding at greater overall efficiency. Do you agree? If not, why not?

Answer: Reductions in funding for outside contractor personnel will not necessarily result in reduced expenditures and greater overall efficiency. To the extent laboratories contract for architect and engineering services, construction, site maintenance, supplies, services, and even research and development, such efforts are executed: (a) in the interest of efficiency and economy; and (b) to provide necessary support when the laboratory does not have in-house capability. It is not correct to assume the work is performed less efficiently under subcontract. In most cases, the work elements are subcontracted to a university or industrial group whose specialty is that work area and the subcontractor performs it with greater effectiveness than a laboratory could do it in-house.

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Question: As Mr. Mares, DOE Acting Deputy Under Secretary, indicated earlier, the growth in the defense program budgets in FY 1983 will help to offset the personnel reductions that take place in other program areas at the national laboratories. Which labs will be helped? What labs will not be helped?

Answer: The most significant increases in the weapons programs are at Los Alamos National Laboratory, Lawrence Livermore National Laboratory and Sandia National Laboratories as projected in the President's budget for FY 1983. The other laboratories are much less involved in weapons activities and would therefore be affected to a much lesser extent. In a number of instances, however, the staffing increases for the defense activities require different skills and disciplines than those of the personnel affected by program reductions. Thus, defense activities increases cannot totally offset energy program reductions in terms of the effect on laboratory employees. Such determinations are the responsibility of the laboratory Director and his management staff.

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Additional Minority Question for Mr. La Grone

Question: What reduction in force will be necessary at Sandia National Laboratory under the President's request level and under the level of a continuing Resolution?

Why is this?

Answer: The Albuquerque Operations Office provides management oversight to the activities of the Sandia National Laboratories.

The estimated number of permanent (full and part time employees) as of 9/30/82 is expected to be 7,800. The estimated FTE for FY 1983 under the Administration budget is 7,620. The estimated FTE for FY 1983 under a continuing resolution is 7,350. Total FTEs are higher under the Administration's budget because the increase in weapons program funding more than offsets the slight decrease in energy funding. The level of 7,350 FTEs associated with a continuing resolution for FY 1983 assumes Sandia's current ratio of funding for purchases and salaries.

Sandia has managed staffing reductions in FY 1982 through attrition. It is expected that the FY 1983 staffing reductions under the Administration's proposed budget will also be managed through expected attrition. However, under a continuing resolution, fewer FTE would be made available which would most likely require an involuntary reduction-in-force of up to two to three hundred people. In this eventuality, Sandia may attempt to moderate the change in employment levels by delaying some purchases and shifting funds to salaries. Such decisions, however, are the the responsibility of the laboratory Director.

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Additional Questions For Mr. Hart

Question: Has DOE consulted with the Division Director for Biology in developing a RIF list that will meet the DOE programmatic requirements?

Answer: The Oak Ridge Operations Office provided the Oak Ridge National Laboratory with guidance regarding the specific biological programs to be eliminated or reduced under the President's FY 1983 budget request. These programmatic decisions were made in our DOE Headquarters program organization. Operations Office staff were informed of Laboratory management's criteria to be utilized in the identification of employees for RIF.

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Question: Does DOE plan to analyze the suggested RIF list to confirm the fact that it meets the priority programmatic needs of the DOE's biological research activities?

Answer: Oak Ridge Operations Office staff was provided a copy of the RIF list for the Biology Division, and it appears to be responsive to program guidance. The actual selection of the RIF list and implementation of procedures are the responsibility of the contractor.

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ADDITIONAL QUESTIONS OF DONALD M. KERR, DIRECTOR,
LOS ALAMOS NATIONAL LABORATORY

Question #1: There is a possiblity that the funding for the Hot dry Rock geothermal program will be increased above the President's request level.

(a) What are the specific staffing implications of this funding uncertainty?

(b) Also, is it possible to arrange a transfer of the Fenton Hill site to commercial interests once the second fracture effort is finished.

Answer: (a) With approval of the President's budget request ($2.5M), steps would have to be taken to reduce the Hot Dry Rock (HDR) staff significantly early in FY83. We estimate that 55-60 people are needed to maintain this program; the President's budget request would support less than half this number. We estimate that $7.5M is required from DOE to maintain the program in FY83

An additional effect of the President's request is that total funding from the Federal Republic of Germany and the Government of Japan (under an International Energy Agency [IEA] agreement) would be reduced from the present level of $5.0M to $2.5M, assuming that these governments do not withdraw from the IEA agreement because of inadequate US funding.

(b) The program calls for probable transfer of the Fenton Hill site to Plains Electric, an REA utility, following successful demonstration of a commercial-size HDR reservoir system. This demonstration requires not only the completion of fracturing (expected FY84) but also establishment of

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reservoir parameters, such as size; flow control; fluid chemistry; seismicity; and, especially, predicted lifetime (expected at the end of FY85).

Plains Electric has stated that in order to obtain financing and licensing for a commercial HDR electric power plant, Plains Electric must maintain access to the Los Alamos reservoir knowledge and experience until such can be effectively absorbed into the utility.

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Question: #2 What are your responsibilities to the Director of Field Operations Management? To what degree nas this Office been of assistance during the last two years? Are there intrinsic limitations to what the Office can do? Please explain and comment on alternatives.

Answer: Our responsibilities lie principally to the Albuquerque Operations Office and to Assistant Secretaries in the Department of Energy. The principal assistance we receive comes through those channels, although the Director of Field Operations Management can on occasion provide useful liaison assistance. This office provides more services for other national laboratories that do not have as direct a relationship with Assistant Secretaries as does Los Alamos. There are intrinsic limitations to offices that do not have the kind of direct supervisory relationship mentioned earlier.

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Question #3: It has been past practice in DOE to fund the laboratories for the first quarter in the succeeding year from the past year's funds. Has this practice been changed? If not, how does this impact your schedule for taking reduction in force actions?

Answer: The present DOE contract with the University of California states that it is DOE's intention to provide funds at all times to support operations for a period of not less than 90 days. While this contractual agreement has not changed, actual provision of funding for the ninety-day period has eroded. For instance, such advance funding has declined for the Laboratory as a whole from about 123 days in FY 1978 to about 69 days in FY 1982.

This level of advance funding would not directly affect our schedule for taking reduction in force actions except under the most extreme conditions. Even under a continuing resolution, sufficient funding is normally provided for on-going operations in addition to the nominally 90 days of advance funding carried into the fiscal year.

The real effect on reduction in force schedules is (1) the timing of final Congressional action on appropriation legislation, and (2) the level of Laboratory funding in the final appropriation legislation. Unless we have firm and timely guidance from DOE to close out or to reduce specific programs, any delays in the appropriation process result in corresponding delays in reduction in force actions. The further we are extended into a fiscal year without a firm basis on which to initiate such actions, the more drastic the eventual action must be to meet approved program funding levels.

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Question: #4 Are personnel reductions an effective tool for terminating the positions of the least critical personnel given the laboratory's mission?

Answer: Yes. When an annual budget is insufficient to support payroll obligations, a reduction in personnel is an effective way for management to retain the best mix of personnel with the skills essential for meeting programmatic objectives.

In practice, the Laboratory uses other cost-saving measures to decrease the impact of personnel reductions such as controlled hiring prior to expected budget reductions, limitations on travel, and controlled procurement.

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Question: #5 Does some hiring continue to take place in special job categories during reduction in force proceedings?

Answer: Yes. During the FY82 reduction in force as well as all previous staff reduction periods, there has been limited hiring.

Los Alamos is a multidisciplinary Laboratory with programs and activities that require a wide variety of special skills and expertise. We experience, simultaneously, expansion in some programs and reductions in others; however, the expertise required by exapanding programs is not always available among personnel affected by a staff reduction.

The Laboratory instituted controls on hiring during calendar year 1981 which resulted in an average of 45 full-time and part-time regular employees being added monthly. For the last quarter of the calendar year, the monthly average dropped to 26. During the four months of reduction in force proceedings, the Laboratory averaged 15 hires per month because of requirements for special skills and expertise. For example, we hired 11 prototype machinists which are in short supply nation-wide and 4 administrative specialists for a nuclear litigation data base development.

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Question: #6 What is legally required when your Laboratory executes a reduction in force?

Answer:

1. Extensive preparation and research to establish validated RIF-candidate selection criteria to avoid equal employment/affirmative action implications or adverse impacts on protected classes.

2. Moderate involvement with DOE representatives to assure concurrence with our criteria mentioned in #1 above and to assure allowability of costs, under prime contract, for all severance pay.

3. Keeping the University of California General Counsel in Berkeley advised.

4. Handling legal defense of any complaints, grievances or lawsuits from persons terminated who may elect to file such claims.

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Question: #7 Please describe the outplacement programs?

Answer: The Laboratory has an organized, combined inplacement and outplacement program.

Extensive counselling is made available to each affected employee with the primary goal of helping them take positive action. Affected employees are assisted in clarifying career goals and provided job leads. Weekly follow-up interviews are conducted to discuss current status, changing needs, and new leads. Assistance is provided in resume design and writing. Effective interview training is provided. Facilities are made available with phones for contacting prospective employers. On-site interviews are coordinated and arranged with prospective employers.

Internally, Laboratory-wide vacancies are updated weekly and made available for review and study by affected employees. Qualified RIF candidates are given priority for internal placement.

Externally, our employment staff contacts employers nationwide in both private and public sectors to develop employment leads. A placement library is maintained consisting of employer profiles, vacancy listings, search firm information, and career guidance material (effective interviewing techniques, resume preparation, how to "cope," etc.). The employment staff makes initial contact with prospective employers, including phone introductions and resume forwarding.

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Question: #8 Follow up - Do professional personnel who are RIFed get jobs in the private sector or chiefly with other government agencies?

Answer: Data is not available to provide complete information on the subsequent employment of those employees involuntarily released by the Laboratory.

We do know that 4 of the 18 professionals affected in FY82 have found other employment; one in the private sector, one with a government laboratory, and 2 with DOE contractors.

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Question: #9 What percentages of laid-off employees for FY82-FY83 are professionals? What is the mix of disciplines?

Answer: The FY82 involuntary RIF included 36% professional employees. The representation by discipline was as follows:

Physics.....4
Chemistry.....1
Electrical Engineering.....2
Nuclear Engineering.....1
Biomedical/Life Science.....4
Miscellaneous.....2
Administrative Specialists.....4

The FY82 Voluntary Separation Program included 44% professional employees. The representation by discipline was as follows:

Physics.....23
Chemistry.....16
Math..... 7
Computer Science..... 1
Metallurgy..... 2
Mechanical Engineering..... 8
Chemical Engineering..... 5
Electrical Engineering..... 8
Nuclear Engineering..... 2
Aeronautical Engineering.....1

Materials Engineering..... 2
Life Sciences..... 2
Miscellaneous Fields..... 6
No Specified Field..... 8
Administrative Specialists.....24

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Question: #10 What fraction of discharged professional employees are able to be re-employed in their disciplines?

Answer: Data is not available to provide a complete answer to this question.

Three of the four professional employees RIFed in FY82 and known to be employed are believed to be working in their discipline.

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Question: #11 What impact will the reduction in personnel have on the nation's ability to maintain a competing or a leadership role in affected areas of work?

Answer: Tne Laboratory has thus far handled its reductions in personnel in a way that has minimized any negative effect on our ability to perform the tasks assigned us by the Federal Government. There are certainly areas where our activities have been curtailed, principally in energy program areas, but those have been made on the basis of national decisions to deemphasize the Federal Government's activities in those areas. There does come a point, however, when cutbacks would inevitably begin to reduce the personnel that are available to work on the most important Laboratory activities. At present, Los Alamos still maintains a competitive and leadership role in scientific work.

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Question: #12 What percentage of discharged employees receive other employment within 12 months after discharge?

Answer: Based on information available from unemployment compensation claims for previous years, we estimate that 95% of all employees laid off find other employment within 12 months of termination from the Laboratory.

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Question: #13 Please provide details on the voluntary reduction in force process relative to procedure, cost, and its general reception. How does this differ from an involuntary reduction in force?

Answer: Prior to FY82, voluntary separations associated with a reduction in force (RIF) were approved on an individual basis, generally as direct substitutes for employees who were candidates for involuntary separation. This year, a more formal Voluntary Separation Program (VSP) was developed and instituted. Only after the VSP did the Laboratory pursue an involuntary RIF. The procedures that were developed and followed for the two programs are described below:

The VSP was advertised through a memorandum to all Laboratory employees. Cut-off dates for accepting applications were established. Safeguards were instituted to ensure employees were not coerced into volunteering. Applications for separation were approved or disapproved based upon Laboratory programmatic needs.

For involuntary RIFs, programmatic commitments are reviewed and the best mix of personnel with skills to meet commitments are identified. Employees considered least essential to meet programmatic objectives are selected as candidates for involuntary separation. Where there are multiple employees performing equivalent tasks and the level of effort needs to be reduced, Laboratory managers consider performance as a criterion for candidate selection.

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Normal job bidding procedures are waived for employees selected as candidates for an involuntary RIF in order to facilitate placement in other Laboratory jobs. Employees selected for involuntary separation and not placed within the Laboratory 60 days following their initial notification are terminated.

Based on FY82 experience, a VSP attracts a greater percentage of employees nearing retirement than would be selected for an involuntry RIF. Years of service, salary, and severance costs are higher for employees associated with a VSP.

In FY82, the averge severance cost for each VSP volunteer was $25.1K (five times greater than the $5.3K average severance cost for each involuntary RIFee); however, the potential average salary cost savings to the Laboratory was $41.2K for VSP volunteers and $26.8K for involuntary RIFees.

Net savings or cost to the Laboratory (salary cost savings minus severence cost) during the FY depends on the date of termination as illustrated in the following table:

NET SAVINGS TO THE LABORATORY PER INDIVIDUAL*
(Net costs are shown as negative numbers)

	SAMPLE TERMINATION DATES				
	Oct. 1	Jan. 1	Apr. 1	Jul. 1	Sep. 30
VSP	$16.1K	$ 5.8K	-$ 4.5K	-$14.8K	-$25.1K
RIF	$21.5K	$14.8K	$ 8.1K	$ 1.4K	-$ 5.3K

*The table does not reflect potential continued salary cost savings in years following the fiscal year of the VSP or RIF.

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The general feeling about a VSP among employees, within the local community, and in the technical community has been very favorable because the response by volunteers greatly reduced involuntary separations thereby mitigating the adverse effects resulting from forced terminations. Employees leaving under the VSP were enthusiastic about the opportunity for early retirement. Some were planning to start businesses while others were able to make a long-planned career change.

Conversely, most employees affected by being a candidate for involuntary separation harbor resentment toward their previous manager specifically and the Laboratory in general.

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Question #14

Would you please describe for the Committee some of the primary institutional problems that need to be overcome in order to help our laboratories keep expert personnel on board and allow them to carry out their new national role.

(a) For example, what problems need to be addressed in order to make it easier for the national laboratories and industry to work more closely together?

(b) What problems have the laboratories encountered in undertaking possible new roles in helping to meet industry R&D needs?

(c) Should policies be clarified regarding "work for others"--R&D for agencies and other sponsors, besides DOE?

Answer:

Fundamentally, it is our position that a broad range of technical collaboration with industry, including but not limited to performance of R&D for industry, will work to the strong benefit of industry, the laboratories and the national economy and security. Thus collaboration may take the form of joint R&D programs, fully or partially supported by industry, staff exchange, technical collaboration at a staff, project or management level, and a full range of informal visitations, advisory committees, etc. The value of such collaborations is:

- To the laboratories - Maintaining and strengthening long-term core capabilities.
- To American Industry - Access to the laboratories' technologies, facilities and expertise both in strengthening their productivity and international competetiveness and in augmenting the R&D resources upon which they can draw.

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- To Priority National Programs - Combining complementary technical and nontechnical expertise to address needs better than either industry of the Laboratories alone can do.

There have been two major areas of problems in establishing collaboration with industry, including helping to meet its R&D needs. The first is Agency inertia. Contractual collaborations (aside from normal subcontracting to industry) have typically received low priority for discussion, review and approval, and there has been skepticism by cognizant Agency staff that cooperation with industry was either desirable or permissible. In many cases, the resulting discussions and delays led to loss of interest by the potential industry collaborator. This situation has improved in the last year and is now in a transitionary state that we hope will lead to enlightened, timely review and approvals.

The other major problem area has been intellectual property. Industry's perception, correct until recently, was that any collaboration with a national laboratory was in the public domain with all resulting intellectual property owned by the Government and available to all requestors. To its credit, the DOE has recently issued a class waiver under which a company paying the full cost of an R&D project at a national laboratory receives rights to any resulting patents. Further, the sponsor can negotiate for limited-term exclusive data rights to the R&D results.

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(Question #14)

A related roadblock is the difficulty and delay in the granting of waivers or exclusive licenses to patents held by the DOE. Because of the substantial investment that is often required to commercialize an invention, companies are often unwilling to invest in DOE's patented technology unless some form of protection is available, e.g., an exclusive license. Thus an important form of potential laboratory-industry collaboration--i.e., industry-supported development and adaptive engineering by a laboratory of an invention made there--can seldom be pursued. By exercising its option under PL96-517 to waive patent rights to operators of GOCO facilities, if those operators are nonprofit organizations or small businesses, this problem would be substantially alleviated. In a broader context, this action would generally make patented laboratory technology pragmatically available to industry, with benefits to the American economy and to the laboratories' institutional standing.

Regarding work for others in general, we are pleased with the language of DOE order 4300.2 on this subject. If interpreted literally, it provides a sound, workable basis for pursuing work for others. One concern in this area is that the laboratories be permitted to respond to Requests for Proposals issued by Federal Agencies and private parties unless laboratories are specifically requested not to respond.

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In this context, the retention of key technical staff and core expertise will be assisted by:

- National policy on the appropriate laboratory roles.
- Pursuit of collaborations with industry that are carefully constructed to preserve the frontiers-of-science character of the Laboratories.
- Strengthening of the reputation and understanding of the laboratories and their overall roles, based upon a track record of success in collaboration with industry to mutual benefit.

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Question #15: Do you believe that the national laboratories could adequately carry out their program responsibilities for FY83 if Congress acted to restore energy program funding at FY82 levels at reduced personnel levels? What would happen if these personnel cuts were postponed until FY83 budgetary decisions had been made? Is there any contractual or other requirement between DOE and the laboratories that requires the national laboratories to make FY83 personnel decisions before the beginning of FY83?

Answer: We have not found personnel limitations to be the most effective way of managing the work of the Laboratory. Scientific research requires people thinking about problems and working on solutions. The ratio between people and materials and services is determined by program requirements. The suggested approach of restoring energy program funding at reduced personnel levels would allow some work to occur that would otherwise have to be curtailed, but is not as efficient as allowing the ratio between personnel and equipment and operating costs to be established by these program requirements.

As I explained in my presentation before the Committee, if personnel cuts were postponed into FY83, and then made, these cuts would have to be more severe than if the cuts occurred at the end of FY82.

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IMPACTS OF BUDGET UNCERTAINTIES ON THE DOE NATIONAL LABORATORIES

Response to Additional Questions by the Subcommittees

M. Blume
Associate Director
Brookhaven National Laboratory
Upton, NY 11973

July 15, 1982

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1. What number of positions would be saved if $10 million in ISABELLE construction funds were provided in FY 1983? How would that funding affect project completion?

Fifty positions would be saved if $10 million in ISABELLE construction funds were provided in FY 1983. The 50 positions represent key individuals who are essential to the completion of the project. Even if the $10 million were provided, there would still be a loss of 100 other positions. The funding would enable us to complete some aspects of the construction and to protect the already completed work. In addition, we would be able to order several long-lead elements of the project in order to minimize delays in completion.

2. What are your responsibilities to the Director of Field Operations Management? To what degree has this Office been of assistance during the last two years? Are there intrinsic limitations to what the Office can do?

The Director of Field Operations Management assists the Director of Energy Research in overseeing institutional planning and general plant facility development of the Laboratories. We coordinate our institutional plan and are reviewed by the Director of Field Operations Management in our plans for general-purpose facilities and for technology transfer. The Office of Field Operations Management is the one element of the Department of Energy which looks at the Laboratory's institutional health from a broad point of view. The directions of the Laboratory are determined largely by individual program officers who provide research funds for individual programs. These program officers are concerned with the overall research efforts in their areas, and they do not necessarily consider the impact on an institution of an increase or decrease in program funds at that Laboratory. The Office of Field Operations Management, because it has only an advisory staff position in the DOE structure, cannot be very effective in smoothing out fluctuations at individual Laboratories because of the actions of program officers.

3. It has been past practice in DOE to fund the laboratories for the first quarter in the succeeding year from the past year's funds. Has this practice been changed? If not, how does this impact your schedule for taking reduction in force actions?

The prime contract between the Department of Energy and Associated Universities for the operation of Brookhaven National Laboratory states that "In order to provide added assurance of continuity of operations, it is the intent of DOE that the funds obligated under this contract be maintained at all times at a level at least sufficient to provide for estimated outstanding commitments and three months' operating costs." Unfortunately, this has not been the practice, since the Atomic Energy Commission was reorganized into the Energy Research and Development Administration

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and subsequently into the Department of Energy, the amounts of these balances have been reduced to an average of only two months of operations. However, depending upon the DOE research program, some activities are inadequately funded to maintain continuity of operations.

The practice that DOE appears to be following regarding funding for Brookhaven National Laboratory for the first quarter of the fiscal year, depending whether or not DOE has a signed appropriation and an apportionment by the Office of Management and Budget, is to authorize all or part of the funding included in their document entitled, "Approved Funding Program." In periods covered only by a Continuing Resolution, it has been our experience to receive approximately 1/12 per month of the amount in the Approved Funding Program which is based on the preceding year's funding level or the President's budget, whichever is lower. These amounts, when combined with the uncosted balance of our prior year's budget authority, provide the means for us to continue our operations.

Regarding a schedule for taking reduction-in-force actions, Brookhaven is controlled by cost ceilings (Budget Outlays) on most of our programs and, therefore, tries to accomplish whatever actions are necessary at the earliest possible date to be able to absorb termination cost in the current fiscal year and, therefore, minimizing the impact of termination cost on the succeeding fiscal year. The requisite for taking the reduction-in-force actions is generally based upon our analysis of the amount included for Brookhaven in the budget that the President presents to Congress. These amounts, combined with our intuitive judgement and expectations for additional funding, form the basis for staffing level decisions for the forthcoming fiscal year.

4. Are personnel reductions an effective tool for terminating the positions of the least critical personnel given the laboratory's mission?

Personnel reductions are a most inefficient way to terminate the least critical or least effective personnel. This is because criteria such as seniority enter into the layoff decisions. The proper way to terminate ineffective personnel is by correct management action.

5. Does some hiring continue to take place in special job categories during reduction in force proceedings?

Hiring must continue to take place in several areas of the Laboratory even though reductions-in-force are taking place in others. We are forced to reduce staff in several applied research programs and in high energy physics because of budget cuts in those areas. At the same time the National Synchrotron Light Source, a

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major new facility, is just beginning full-scale operation. We must add staff for that facility. Of course, we make every effort to transfer people from areas where the budget is reduced to the NSLS, but the correct skills are not always available in the areas being reduced. We must then hire from outside the Laboratory at the same time that some employees are being discharged.

6. What is legally required when your Lab executes a reduction in force?

To effect a reduction in force, the Laboratory must meet its obligations in regard to severance pay and notice of termination as stated in our staff manuals and in our contracts with the various bargaining units. In addition, BNL has a legal obligation to pay New York State Unemployment Compensation to all discharged employees and to follow non-discrimination policies in effecting the reduction-in-force.

7. Please describe the outplacement programs?

The Laboratory's outplacement program is handled entirely by the staff of the Personnel Division.

At the time of layoff notification, each employee receives a package of benefit and job relocation information. The package includes general advice on job search, a guide to resumé writing, a directory of relevant local and national employers, information on employment agencies and the U.S. Employment Service, and a detailed listing of current job openings in outside organizations. The latter list is compiled by the personnel staff through extensive telephone and letter solicitation on a national basis.

Each RIF employee is assigned to a personnel staff member, who acts as a counselor on resumé preparation and job search strategies, as well as on general problems associated with job loss. Resumés are typed and reproduced at no charge.

Updated job opportunity bulletins are published periodically during the layoff period, and outside employers with significant numbers of appropriate job vacancies are invited to conduct interviews on the Laboratory site. When feasible, several such companies are scheduled simultaneously in a "job fair" arrangement, as a means of easing the interview process for affected employees.

8. Follow up - Do professional personnel who are RIFed get jobs in the private sector or chiefly in other government agencies?

Our follow-up information on RIFed professional employees indicates that the large majority have been re-employed in private sector jobs, which are available on Long Island.

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9. What percentages of laid off employees for FY'82-FY'83 are professionals? What is the mix of disciplines?

Thirty percent of the employees who were laid off for FY 1982 and FY 1983 were professionals. The mixture of disciplines was as follows:

Engineering	36.8%
Design Engineering	9.5%
Computer Science	16.8%
Life Sciences	9.5%
Physical Sciences	11.6%
Administration/Other	15.8%

The total reduction-in-force was accomplished by attrition and by non-renewal of term appointments, as well as by layoff. Scientists and professionals were more heavily represented in the former categories than in the layoff group.

10. What fraction of discharged professional employees are able to be re-employed in their disciplines?

The Laboratory estimated that 90% of RIFed professional employees who have been re-employed found jobs in their fields.

11. What impact will the reduction in personnel have on the nation's ability to maintain a competing or a leadership role in affected areas of work?

The reduction in scientific research personnel gives us the greatest concern of all the impacts of these reductions. This is because research personnel who take other professional employment are seldom able to return to the forefront problems in their fields. For example, a researcher in solid state physics who is discharged and who takes up an appointment in computer science will not be able to return to do forefront work in solid state physics in the future. The nation has spent much effort and money in inducing bright people to undertake careers in research and in educating them. If we force them into other areas of work, we will lose them permanently, and we discourage young people now in school from entering careers in research.

12. What percentage of discharged employees receive other employment within twelve months after discharge?

Based on follow-up information and unemployment benefit payment reports, we estimate that 90% of the personnel involuntarily laid off in May 1981 found other employment.

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13. Please provide details on the voluntary reduction-in-force process relative to procedure, cost, and its general reception. How does this differ from an involuntary reduction-in-force?

The voluntary reduction-in-force process operates as a concurrent component of the involuntary layoff procedure, under the following policy guidelines:

> "At the discretion of the Department Chairman or Administrative Head, an employee who voluntarily terminates will be eligible for severance pay provided (1) the termination results in the retention of an employee who otherwise would have been laid off, and (2) the arrangements for the termination are made during the layoff notification period of the employee whose position is saved."

Once a volunteer has been accepted for layoff, all subsequent termination procedures, benefits and costs are identical to those for involuntary separations.

The voluntary layoff process is favorably received by both managers and employees. It enables us to respond more flexibly to the pressures of the layoff situation. It is not ideal, however, and is not always used, since it may induce requests from individuals who must be retained. Refusal of these requests sometimes leads to discontent.

14. Would you please describe for the Committee some of the primary institutional problems that need to be overcome in order to help our laboratories keep expert personnel on board and allow them to carry out their new national role.

(a) For example, what problems need to be addressed in order to make it easier for the national laboratories and industry to work more closely together?

First, for the Laboratories to get on with the business of research, an end is needed to the succession of reviews of the role of the national laboratories. The ERAB and OSTP reviews now taking place are only the latest in a succession of repetitious inquiries into the role of the Laboratories. The relationship between the Laboratories and industry should by now be clearly established. To enhance the interaction, a clarification of DOE patent policy is needed. Further, industry and the Laboratories should be allowed to give joint responses to requests for proposals (RFP's) from government agencies. In addition, RFP's should invite respondents to include Laboratory facilities and researchers in their own responses. The latter would be particularly advantageous in that

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it would enable innovative smaller businesses, without major resources of their own, to compete against larger rivals.

(b) What problems have the laboratories encountered in undertaking possible new roles in helping to meet industry R&D needs?

The National Laboratories have been identified as energy laboratories. This identification causes some limitation in their abilities to undertake new roles.

(c) Should policies be clarified regarding "work for others" -- R&D for agencies and other sponsors, besides DOE?

A clarification is needed in the policies concerning Laboratory response to RFP's. Laboratories should be able to respond to RFP's so that their unique capabilities can be put to the nation's service and so that the Economy in Government Act can be observed. An individual manager in a government agency cannot possibly be aware of all of the capabilities of the Laboratories. Further, there is a clear need for a program under the Office of Energy Research for applied (i.e., goal-oriented) research. The technical programs of DOE have not adequately provided for such research. Such programs at the Laboratories would provide a base for further utilization of the Laboratories by others and would not compete with industrial research.

15. Do you believe that the national laboratories could adequately carry out their program responsibilities for FY 1983 if Congress acted to restore energy program funding at FY 1982 levels at reduced personnel levels? What would happen if these personnel cuts were postponed until FY 1983 budgetary decisions had been made? Is there any contractual or other requirement between DOE and the laboratories that requires the national laboratories to make FY 1983 personnel decisions before the beginning of FY 1983?

The effect of holding energy program funding to FY 1982 levels for FY 1983 would differ at each of the National Laboratories. At Brookhaven the net effect would be negative. This is because Brookhaven is scheduled to receive an increase in funding in basic research areas where new facilities are coming on-line. The new facilities require additional personnel for operation and utilization. Some areas of the Laboratory will have their funding reduced under the Presidential FY 1983 budget, particularly in applied research areas. The net impact of holding funding at FY 1982 levels would, however, be negative.

If personnel cuts are postponed until FY 1983 budget decisions are made, the cuts will have to be larger because termination costs

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would then have to be taken out of FY 1983 funds. We are unable, for the bulk of our funding, to carry funds over from one fiscal year to another. There are no contractual requirements between DOE and the Laboratories that require us to make FY 1983 personnel decisions before the fiscal year begins. We must do this to minimize the impact of reductions on our programs.

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ADDITIONAL QUESTIONS ON THE IMPACT OF BUDGET UNCERTAINTIES ON THE DEPARTMENT OF ENERGY'S NATIONAL LABORATORIES, LAWRENCE BERKELEY LABORATORY

1. What are your responsibilities to the Director of Field Operations Management? To what degree has this Office been of assistance during the last two years? Are there intrinsic limitations to what the Office can do? Please explain and comment on alternatives.

   The Laboratory submits the annual Institutional Plan, reports on technology transfer, adheres to work for others policies.

   The Office is of assistance in bringing institutional focus upon the needs of the Laboratories. The decisions to fund areas of research are programmatic and therefore there is a tendency for the overall viability of the institution itself to be overlooked. The role of the National Laboratories, as institutions, needs to be preserved against dramatic shifts in program support. This function has to be performed by a single entity which focuses concerns for the viability of the institution as a whole.

   The limitation is that there is no influence of program dollars involved in dealing with this Office. The Office deals only with policy and systems and may suffer from being poorly regarded since it imposes what may be perceived as bureaucratic limitations without any funding to implement these policies.

   There are no viable alternatives.

2. It has been past practice in DOE to fund the laboratories for the first quarter in the succeeding year from the past year's funds. Has this practice been changed? If not, how does this impact your schedule for taking reduction in force actions?

   It has never been DOE's policy to fund the Laboratory for the first quarter in the succeeding year from the past year's funds. The funding for the first quarter

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has been usually based on the "interim resolution" and we have received an allotment for the first two months late in November to cover the costs for October & November. Then either another partial allotment in late December for that month, or the balance of the funding required for the remainder of the year. The Laboratory uses obligational authority provided under the pre-financing clause of our contract with the Department of Energy to exist during the first two months of a fiscal year. The contractual arrangement between the Department of Energy and the University of California, for the operation of LBL, provides that it is the 'intention' of the Government to maintain 90 days of funding available to the Laboratory. Many programs are failing to meet this intention and are providing from 0 to about 60 days of funding.

The current pressures from the program offices to use the pre-financing amounts, due to budget cuts, makes the problem more acute. For some time now, our total laboratory pre-financing has been averaging about 50 days. At the start of each fiscal year we do not receive our first funding until the latter part of November. This is coming close to our limit. If the current trend by the program divisions of DOE of avoiding pre-financing commitments continues, we could be faced with insufficient (or no) obligation authority to continue operations in the early months of a fiscal year while we await the first funding.

3. Are personnel reductions an effective tool for terminating the positions of the least critical personnel given the laboratory's mission?

Laboratory policies provide that management may determine, within each major organizational unit of the Laboratory, the classifications and numbers of employees to be affected by a reduction in force. To the extent that these policies can be applied to maintain the proper mix of employees to perform remaining job, there is the potential for terminating those positions least critical to the overall mission of the Laboratory. Beyond that, however, there are problems. Within a classification and division, the order of layoff is inverse order of seniority, with no consideration allowed for quality of performance.

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Exceptions to seniority order can be made only on the basis of special skills, knowledge or ability necessary to perform the ongoing functions of the division. There are many situations in which the young, vital employees, with expectations of outstanding contributions to the Laboratory, cannot be retained.

4. Does some hiring continue to take place in special job categories during reduction in force proceedings?

Programmatic needs of the Laboratory require that hiring take place, particularly in scientific and technical areas, on a relatively constant basis. Only occasionally are employees who are affected by reduction in force found to have sufficiently interchangeable skills to fill newly-created positions. However, all employees in layoff status are notified of all existing Laboratory vacancies for periods of up to three years, and those who feel qualified may apply and be considered for any available vacancies.

5. What is legally required when your Lab executes a reduction in force?

The order of layoff within classification is prescribed as indicated above. Employees selected for layoff must be formally notified at least thirty (30) days prior to the effective date, with extended periods of three months for staff scientists and one year for staff senior scientists provided by policy. All employees have the right of formal, final and binding third party grievance process if they believe that these policies have been improperly applied.

RIF Impact on Personnel Reduction
Technological Infrastructure

6. Please describe the outplacement programs?

The outplacement program at LBL is comprised of a variety of steps to facilitate the laid-off employee as much as possible in the process of seeking employment.

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At the time the layoff letter is prepared, the Employment Representative is contacted in order to set a date and time for an interview. This date and time is included in the layoff letter. The laid off employee has also been advised before the scheduled interview time that the appropriate Employment Representative is available to answer any questions concerning the layoff.

On the interview day, the Employment Representative follows a prescribed format to inform the laid off employee of preferential rehire and recall rights, benefits, potential openings at the Lab and outside organizations that have available positions.

In terms of outplacement, the Employment Representative counsels the laid off employee on resume and application writing techniques, handling interview sessions, various employment agencies including the Employment Development Departments and how they operate, various businesses and organizations throughout the United States and available positions at U. C. Campuses and Lawrence Livermore Laboratory. The Representative also advises the laid off employee on effective use of newspaper advertisements for available positions and informs the individual of interview workshops available outside the Laboratory.

As far as clerical, technical and non-skilled classifications are concerned, a one-to-one contact at Berkeley and UCSF Campuses has been established. In the management and professional classifications, contact is made directly with the hiring supervisor at Berkeley Campus.

The Employment Representative also determines, with the laid off employee, whether or not the individual is interested in receiving the "Current Job Openings" bulletin and does follow-up work periodically to determine if the laid off employee still interested in positions at the Laboratory.

Follow-up interviews may be required in order to continue the outplacement process.

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7. Follow up - Do professional personnel who are RIFed get jobs in the private sector or chiefly with other government agencies?

The Laboratory does not keep track of employees who have been placed on layoff. The information available to the Laboratory is incomplete.

RIF Impact on Personnel Reduction Technological Infrastructure

8. What percentages of laid off employees for FY'82 - FY'83 are professionals? What is the mix of disciplines?

Total Layoffs FY '82	269
Total Professional Layoffs (Scientific & Engineering)	82
Percentage of Professional Layoffs	30.5%

Mix of Disciplines

3	-	Biology
1	-	Physiology
4	-	Chemistry
3	-	Physics
26	-	Computer Science & Math Programming
6	-	Electronics Engineering
1	-	Electrical Engineering
20	-	Mechanical Engineering
4	-	Health & Safety Engineering
2	-	Industrial Engineering
1	-	Mining Engineering
2	-	Architecture
3	-	Program Management Engineering & Sciences
2	-	Geological Engineering
4	-	Geology

The President's Budget for FY 1983 impacts severely the Laboratory's Conservation, Solar, Energy Storage and Geothermal programs. These programs would be reduced to a small fraction of their present size or abolished altogether. A number of various scientific disciplines would be involved, particularly environmentalists, biologists, and physicists.

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PROFESSIONALS REEMPLOYED IN THEIR DISCIPLINES

9. What fraction of discharged professional employees are able to be re-employed in their disciplines?

SEE ITEM 7

10. What impact will the reduction in personnel have on the nation's ability to maintain a competing or a leadership role in affected areas of work?

To build a strong research team takes several years. A team cannot be easily, if at all, reassembled once disbanded. A new capability, in effect, has to be reestablished.

11. What percentage of discharged employees receive other employment within twelve months after discharge?

Too early to tell.

Laboratory Directors

12. Please provide details on the voluntary reduction in force process relative to procedure, cost, and its general reception. How does this differ from an involuntary reduction in force?

During periods in which layoffs are taking place, the Laboratory may announce that volunteers for layoff will be considered. If any employee wishes to volunteer for layoff, with severance pay and all other rights, such as preference for rehire and recall rights, Laboratory management may accept the proposal, provided another employee, who otherwise would be laid off, will be retained, and the action will not result in a vacancy which must be filled by recruiting a new employee.

There is some increase in cost, due to larger severance payments for employees who are induced by the severence pay to take early retirement. On the other hand, the plan has helped the Laboratory to maintain a more reasonable age mix in the work force and, particularly in scientific areas in which major contributions are expected early in the scientist's career, to retain the most productive employees.

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13. Would you please describe for the Committee some of the primary institutional problems that need to be overcome in order to help our laboratories keep expert personnel on board and allow them to carry out their new national role.

(a). For example, what problems need to be addressed in order to make it easier for the national laboratories and industry to work more closely together?

The laboratories need to be able to seek non-DOE funded work to continue to support their expert personnel if DOE funding falls short of needs. The major problems which have developed arise in the areas of patents and advance payments for work to be done for non-federal sponsors. In the patent area it is our understanding that DOE is relaxing the requirement that outside sponsors of research at the laboratories give up rights to patentable inventions, however, this is contingent as the sponsor paying the DOE full cost recovery for the work. This will make it financially less attractive for sponsors to deal with us.

(b). What problems have the laboratories encountered in undertaking possible new roles in helping to meet industry R&D needs?

The problems regarding patents and advance payments have been mentioned above, overall the major problem is the lack of delegation to the laboratories to accept this type of outside work from industry or other agencies. The arrangements are negotiated between the laboratory and the outside sponsor, but then the negotiation is followed by a detailed, time-consuming review by the DOE Field Office which usually targets in on non-substantive details and complete adherence to format, as prescribed by DOE, regardless of the substance.

(c). Should policies be clarified regarding "work for others"--R&D for agencies and other sponsors, besides DOE?

The answer to this question is clearly in the affirmative. Not only should policies be clarified, but policies should also be prepared which recognize that the aim is to be of assistance to outside sponsors and to enable the laboratories to keep an even personnel level by utilizing outside work rather than insisting on adherence to formalistic rules. The policy should also permit delegation of authority to the laboratories to negotiate and accept agreements for work for others.

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14a. Do you believe that the national laboratories could adequately carry out their program responsibilities for FY 1983 if Congress acted to restore energy program funding at FY 1982 levels at reduced personnel levels?

Yes, but there will be some reduction on scope-of-effort. The Laboratory could survive and maintain a cadre of basic capabilities and be prepared for mounting a more adequate program in succeeding years.

14b. What would happen if these personnel cuts were postponed until FY 1983 budgetary decisions had been made?

It could be catastrophic if personnel reductions are postponed until the fiscal year 1983 budgetary decisions have been made unless the budget provided a level of funding equal to the prior year plus an amount for inflation. To the extent the budget is less than this amount, reductions-in-force will have to be made, as about 70% of our cost are wages, salaries and fringe benefits. The longer the delay to effect reductions after the start of the fiscal year - the greater the number of employees to be placed on layoff. For example, if the Laboratory had to reduce its staff by the equivalent of 100 man years to balance its budget, then as of October 1 only 100 employees have to be laid off; on the otherhand, if we wait until the succeeding April 1, then we reduce the staff by 200 to achieve the same 100 man years.

14c. Is there any contractual or other requirement between DOE and the laboratories that requires the national laboratories to make FY 1983 personnel decisions before the beginning of FY 1983?

The University's contract with DOE requires the University to use prudence and good judgment in the conduct of its business and other affairs. If the Laboratory exceeds its budgetary amounts, and is found remiss in the sound conduct of its affairs, then DOE could find it necessary to disallow costs incurred from such remissions for reimbursement.

15. Lawrence Berkeley Laboratory will experience a significant staffing reduction from 2,605 personnel in FY 1982 to 2,110 in FY 1983, based on the President's Budget.

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(a) What programs will suffer the most from these cuts?

SEE TABLE A (ATTACHED).

(b) Does the lab plan to maintain a basic core of program personnel in the future in the applied energy technology areas such as fossil and geothermal energy or conservation?

Yes, but only if we have core-funding in these program areas. Specifically, funding at about fiscal year 1982 levels is essential, if core capability is to be maintained.

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TABLE A

LBL Budget and FTE Levels

for

FY 1982 and FY 1983 (EST.)

		FY '82 OPERATIONS[1]				FY '83 OPERATIONS[3]				CHANGE FY 82-FY 83
B/R	PROGRAM	B/A	B/O[2]	CAP	FTE[2]	B/A	B/O	CAP[3]	FTE	
AH, AP	Nuclear Energy	.8	.9	-	14	.6	.6	-	11	-3
AT	Magnetic Fusion	5.5	5.4	3.0	116	6.6	6.6	2.6	118	+2
GB	Weapons (ICF)	1.9	1.9	.2	25	.5	.5		7	-18
EB	Solar	2.5	3.1	.1	44	0	-	-	0	-44
AM	Geothermal	1.6	2.4	-	24	.8	.5	.3	7	-17
AA, AC	Fossil	1.3	2.0	.2	37	.5	.6	-	0	-37
HB, KA, KB	General Science	38.0	38.0	10.0	630	39.9	39.9	5.2	596	-34
EC, ED, EE, EG	Conservation	7.3	9.0	.2	82	2.5	2.5	-	21	-61
AW	Uran. Enrich.	.1	.1	-	2	-	-	-	0	-2
KC	Basic Energy	18.1	18.3	4.6	298	18.5	18.5	2.3	282	-16
AL	Elec. Energy Stor.	5.9	5.3	.2	22	0	-	-	0	-22
HA	Environment	5.3	5.4	1.9	83	4.5	4.5	.9	64	-19
KE, LA, WB	Mgmnt./Admin.	.6	.7	-	15	.2	.3	-	5	-10
		88.9	92.5	20.4	1392	74.6	74.5	11.3	1111	281
Reimbursable		8.4	8.4	-	125	6.4	6.4[4]	-	88	-37
WFO		23.3	23.3	2.0	355	21.7	21.7[4]	1.8[4]	308	-47
Indirect					733				593	-140
TOTAL		120.6	124.2	22.4	2605	102.7	102.6	13.1	2100	505

(1) April Financial Plan (B/O)
(2) Institutional Plan ($ are B/O)
(3) President's Budget (B//O)
(4) Institutional Plan

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Additional Questions Posed by the Joint Subcommittee Hearing on the Budget Uncertainties on the DOE National Laboratories, Oak Ridge National Laboratory

Q - In your testimony you indicate that the fossil and conservation programs will probably experience significant people and programmatic impacts under the FY 1982 budget.

(a) What do you believe will be the extent of these cuts?

A - Because of the strong feeling of Congress in all budget circumstances, including the Lata Bill as well as the House/Senate Conference proceedings, it is likely that the conservation program will be much less severely impacted than originally anticipated. We believe that a cut of approximately 20% in people will be necessary in the conservation program. There remains considerable uncertainty in the fossil energy program; but because of money authorized in previous years, there are sufficient funds to gradually reduce the staff through internal movement and attrition to a level approximately 20% below existing level.

(b) How will these personnel cuts affect the progress of program activities?

A - Of course with a reduction of approximately 20% in people, a number of programs and progress made in them will be affected. Because cutbacks are usually very program specific, some programs will be eliminated entirely while others will proceed at previously established rates. So cuts which gravely affect personnel in programs that are being eliminated will only slightly impact programs that are being maintained. There is always the difficult problem of morale in an uncertain atmosphere; and people cannot remain as efficient, motivated, or productive as they are when they see stability and continuity in future activities. So, as a result, undoubtedly programs will be slowed even if the funding ultimately is the same.

(c) Could resources from The University of Tennessee be used to help carry out future program missions?

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Questions

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A - Resources of The University of Tennessee, Knoxville, are greatly used in activities at the Oak Ridge National Laboratory. Approximately 300 people--faculty, graduate students, students working on their theses, etc.--are involved in programs at the Oak Ridge National Laboratory. In addition, approximately $4 million per year is paid to The University of Tennessee in subcontracts to carry out the R&D missions of the Laboratory. So, in reality, the resources of The University of Tennessee have been used extensively in the past; and I anticipate that will continue in the future. Other campuses of The University of Tennessee (in Chattanooga and Martin) are only slightly involved in the work of the Laboratory because of their remoteness and lack of research facilities. The Space Institute (in Tullahoma) of The University of Tennessee is involved in a consultory fashion, but there is no exchange of funds between the organizations.

Q - What are your responsibilities to the Director of Field Operations Management?

A - Director of Field Operations Management has an institutional and landlord responsibility but no actual programmatic authority in the operation of the Oak Ridge National Laboratory. The Contract Administrator at the Oak Ridge Operations Office has that responsibility.

Q - To what degree has this Office been of assistance during the last two years? Are there intrinsic limitations to what the Office can do?

A - The Office has been of great assistance in carrying out of institutional planning and the justification for the General Purpose Facilities, General Plant Projects, and those activities associated with maintaining the

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physical, health, and programmatic integrity of the Laboratory as a whole. They have been instrumental in working with the Assistant Secretaries in responding to the needs of the Laboratory, but they must play a coordinating role since they have no direct programmatic responsibility--those decisions are reserved to the Assistant Secretaries. That partially explains the intrinsic limitations on the Office.

Q - It has been past practice in DOE to fund the laboratories for the first quarter in the succeeding year from the past year's funds. Has this practice been changed?

A - The contract between the organizations calls for 90 days' forward funding. In those cases where it was not possible for financial plans to be developed by Headquarters, the Contract Administrator authorized ORNL to proceed on the basis of the contract and in areas where the past year's funding was adequate.

Q - If not, how does this impact your schedule for taking reduction in force actions?

A - This has had little impact on our schedule for taking reduction-in-force actions.

Q - Are personnel reductions an effective tool for terminating the positions of the least critical personnel given the laboratory's mission?

A - Reduction in force is a mechanism used to carry out programmatic decisions made by the Administration and Congress. In terminating personnel, we attempt to place those who have the most critical talents and go to great extremes to

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move them from programs which are being terminated to programs where funding is more secure. Thus, the least critical personnel in this giant shuffle are those who are terminated. It is a tool that is effective, but there are far more effective ways to adjust personnel levels.

Q - Does some hiring continue to take place in special job categories during reduction-in-force proceedings?

A - Hiring continues to take place, indeed, in special job categories although it is at a greatly reduced level. There are special talents that are needed in programs where people have retired or in areas which are receiving increased emphasis. Special talent (particularly at the Ph. D. level) is recruited broadly from throughout the United States. The very great difficulty in shifting a surplus in veterinary pathology to work in the area of theoretical plasma physics is one example that is pertinent to our present circumstances. And, indeed, we continue to recruit a few extremely talented people from recent graduates in order to obtain the best people in the country and hope that this kind of talent will continue to be needed for long-term research at the Laboratory. But we are only talking about three or four people per year.

Q - What is legally required when your lab executes a reduction in force?

A - Reduction-in-force guidelines and rules are carried out using procedures established by Union Carbide Corporation, the contract operator. There are no legal requirements that come in the form of federal statutes or mandates. Of course, any reduction in force brings concern of discriminatory practices and class action suits. Therefore, great care is taken at the Laboratory to ensure that the proper affirmative

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action and equal employment opportunities criteria are maintained during the reduction in force in order to minimize even the appearance of discriminatory practices.

Q - Please describe the outplacement programs.

A - The Laboratory provides office space, use of telephones, assistance in preparing resumes, and instructions on handling interviews to aid those affected to optimize their chances for finding jobs. In addition, we are in contact with a large number of firms throughout the country which have openings. Contacts are made with their personnel offices, as a result of advertisements in trade magazines, or where we have specifically indicated to organizations our problems and they have expressed an interest. In addition, search firms are utilized by a number of corporations; and these are, at times like this, very active in seeking candidates for jobs within the corporations they represent. We will arrange for companies to visit the Laboratory to interview large numbers of people; and, of course, we aid in with travel arrangements, appointments, etc. for people who must go off-site for job interviews.

Q - Follow up - Do professional personnel who are RIFed get jobs in the private sector or chiefly with other government agencies?

A - Since last year, only five people have been terminated. Some have taken jobs in the universities, one has a job in another national laboratory, and two are in the private sector. All five secured jobs; several received three or four offers. One person got a very prestigious job with a 40% increase in salary.

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Questions

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It is too soon, of course, to understand how the professional personnel being RIFed this year will be affected or what jobs will be available for them.

Q - What percentages of laid off employees for FY 1982-83 are professionals?
A - Forty (40) out of 85 people (or approximately half) given involuntary RIF notices are professionals. There is a mix of disciplines; but they are mainly in the area of biological sciences, with more than 80% of those being RIFed in that category. In addition, we have a number of temporary people whose employment either has not or will not be renewed, and we have moved several engineering and professional personnel to another DOE installation in Oak Ridge.

Q - What fraction of discharged professional employees are able to be re-employed in their disciplines?
A - To our best knowledge, all of them have been reemployed in the disciplines in which they have been trained.

Q - What impact will the reduction in personnel have on the nation's ability to maintain a competing or a leadership role in affected areas of work?
A - Of course, the nation's ability to maintain a leadership role in the affected areas of work will be reduced because there will be fewer professional people working in those areas in which the government had previously expressed an interest in playing an important role. The people who have left and found employment in the private sector, universities, or other laboratories will obviously be working in areas which are closely allied to the missions of those institutions.

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Questions

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Q - What percentage of discharged employees receive other employment within twelve months after discharge?

A - In last year's RIF, 100% received employment within twelve months after discharge.

Q - Please provide details on the voluntary reduction in force process relative to procedure, cost, and its general reception. How does this differ from an involuntary reduction in force?

A - The voluntary reduction in force process has the following guidelines: If it can be directly shown that one person's leaving will save the job of someone who would have been affected because of reduction in program activities, then that person is granted a voluntary reduction in force. This traceability must be demonstrated. We announce a time period in which people can voluntarily request a reduction in force. After the voluntary reduction in force is completed, we proceed with an involuntary reduction in force. Approximately 160 people this year have volunteered to leave Oak Ridge National Laboratory. The general reception is very high, and it is conceded that this is the best way to be fair in a difficult time. The cost for terminating an employee involves approximately one week's pay for every year of service and whatever accumulated vacation time remains. The total comes to approximately $17 thousand per person this year.

Q - Would you please describe for the Committee some of the primary institutional problems that need to be overcome in order to help our laboratories keep expert personnel on board and allow them to carry out their new national role.

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Questions

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(a) For example, what problems need to be addressed in order to make it easier for the national laboratories and industry to work more closely together.

A - There are several very positive steps that can be taken to make it easier for national laboratories and industry to work more closely together. Restrictive patent laws have made it difficult for industry to find it attractive to work with a national laboratory since exclusive licenses are difficult to obtain. This problem is being addressed in the Senate by the Schmitt Bill (Senate 1657) and in the House by the Ertel Bill (House Resolution 5715). If those bills are passed and the Department of Energy accepts them (they are presently opposed to them), then one obstacle to closer cooperation between national laboratories and industry would be removed. Another factor would be to allow the national laboratories and industry to develop joint proposals in response to requests for proposals (RFPs) by industry to the government. By working together and utilizing the best resources of the labs and industry, such joint proposals and cooperative efforts as well as the best transfer of technology could take place.

(b) What problems have the laboratories encountered in undertaking possible new roles in helping to meet industry R&D needs?

A - That question was answered previously, in part. However, it is not now possible for laboratories to respond to RFPs that industry issues in Commerce Business Daily. Thus laboratories cannot utilize their resources to respond to what industry may wish to have done because of laws dating back to 1933 which prohibit federal entities from responding to RFPs. Also, the Econimic Recovery Act of 1981 provides incentive for industry to work with universities and not-for-profits by providing tax write offs and

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investment incentives that are not possible for work placed at the national laboratories. Thus there is little incentive for industry to place work at laboratories since there is a tax advantage to placing it at other institutions.

(c) Should policies be clarified regarding "work for others"--R&D for agencies and other sponsors, besides DOE?

A - R&D work that is done for other government agencies needs no clarification, is well established, is fully functional, and works smoothly. Industrial sponsors certainly would need to be clarified, and basic statutes would have to be changed to allow the laboratories to respond directly to industrial needs.

Q - Do you believe that the national laboratories could adequately carry out their program responsibilities for FY 1982 if Congress acted to restore energy program funding at FY 1982 levels at reduced personnel levels?

A - Of course laboratories cannot carry out their full program responsibilities if personnel are reduced since personnel are the most valuable resource we have. It is absolutely necessary to carry out the full program. We can carry out important programs at reduced levels, but everyone must be aware that those programs have been narrowed in scope and delayed in timing, and undoubtedly, will be subject to change somewhere downstream.

Q - What would happen if these personnel cuts were postponed until FY 1983 budgetary decisions had been made?

A - Delaying personnel cuts to late in the fiscal year has the unfortunate consequence of compounding the problem by forcing us to lay off more people in order to have adequate funds for termination and salaries up to the time

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Questions

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of terminations. As described in the testimony I submitted to the Committee, my only suggestion would be that funds be set aside to compensate for those delays. Those funds are not presently available.

Q - Is there any contractural or other requirement between DOE and the laboratories that requires the national laboratories to make FY 1983 personnel decisions before the beginning of FY 1983.

A - There are no contractural requirements between DOE and the laboratories. Prudent management, as is outlined above, would indicate that it is always wiser to make decisions early in order to keep from having twice the consequence that would occur if decisions are delayed.

Q - Lawrence Berkeley Laboratory will experience a significant staffing reduction...

A - No answer is necessary from the Oak Ridge National Laboratory.

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APPENDIX II

ADDITIONAL STATEMENT FOR THE RECORD

LAWRENCE LIVERMORE LABORATORY

June 15, 1982

Honorable Donald Fuqua, Chairman
House Committee on Science and
Technology
2269 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

We were very interested in your hearing of June 2, 1982, on the "Impacts of Budget Uncertainty on the DOE National Laboratories."

From discussions with your staff, we understand that the Committee will accept statements for the record from other National Laboratories who might wish to submit them. We would very much appreciate this opportunity, and a statement for the Lawrence Livermore National Laboratory is enclosed.

The DOE Multiprogram National Laboratories are indeed a special national resource. We appreciate and recognize the efforts that your committee has been making in trying to achieve a balanced national R & D effort under difficult economic and budgetary constraints.

Sincerely,

Roger Batzel

Roger E. Batzel
Director

Enclosure

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Statement for the Record

to

House Committee on Science and Technology

Hearing on Impacts of Budget Uncertainty on the DOE National Laboratories

Roger E. Batzel

Director

Lawrence Livermore National Laboratory

June 2, 1982

I am pleased to have the opportunity to provide information regarding the Impacts of FY 1983 Budget Uncertainties at the Lawrence Livermore National Laboratory. To begin with, I would like to respond to each of the five questions you specifically asked, and then comment generally on the role of the National Laboratories and the importance of balanced multidisciplinary-multiprogram activities.

QUESTION 1: What actions, if any, have been taken to date at the Labortory concerning potential reductions in force; that is, modifications, assessment activities, etc.?

ANSWER: The estimated full-time equivalent (FTE) staffing levels in FY 1982 and FY 1983 under various circumstances are summarized below:

		FY 1983	
	FY 1982	Pres.	Cont. Resol.
Annual Average	7,394	7,120	6,800
End Point	7,250	6,900	6,500

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You will note that under the President's budget, the Laboratory expects to lose some 350 FTEs (about 400 people) overall, and, under a continuing resolution, that number would increase to about 750 FTEs.

QUESTION 2: What is the final date by which management decisions must be made to take action on any reduction in force prior to the beginning of FY 1983?

ANSWER: At Livermore we have already begun to take action in those programs with considerable funding uncertainty. By beginning to reduce staff levels now, we hope to avoid sudden and more disruptive reductions

QUESTION 3: What is the nature of the lay-off situation at the Laboratory if: (a.) an FY 1983 budget is passed at the levels requested by the Administration; (b.) DOE programs are funded by a continuing resolution at FY 1982 levels?

ANSWER: We hope to avoid involuntary separations in FY 1983 by appropriate actions now. A summary of our anticipated average staffing level by program follows.

Program Area	FY 1982 (Avg.)	FY 1983 (Avg.) Pres. Budget	FY 1983 (Avg.) Continuing Resolution
Weapons & ICF	1,781	1,780	1,655
Isotope Separation	258	220	200
Magnetic Fusion	321	334	315
Energy Research	108	66	66
Bio. & Env. Research	143	105	105
Other DOE	277	225	225
Reimbursable/Work For Others	493	493	493
Subtotal	3,381	3,223	3,059
Construction & Equipment	377	348	348
Supporting Facilities	550	550	530
Indirect	3,086	2,999	2,863
	7,394	7,120	6,800

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The institutional impacts at the President's request are specifically in the Energy and Environmental programs and the indirect areas. Our three largest programs--Weapons Research, Magnetic Fusion, and Isotope Separation--taken together would be reduced by about 25 average FTE or 50 people under the President's budget. Under a continuing resolution for all of FY 1983, those same programs would lose about 190 average FTE or 350 people. The Energy, Environmental and other DOE programs are reduced at the President's level and would not be affected more severely by a continuing resolution. The reductions, under either the President's budget or a continuing resolution, would be about 130 average FTEs. The Laboratory-wide Indirect and Supporting areas would lose about 90 average FTEs under the President's Budget and 240 average FTEs under a continuing resolution. The reimbursable programs are all estimates. Many of these are defense-related, which should continue more or less uninterrupted.

QUESTION 4: What effect is the present budget situation having on the implementation of program management; that is, in what ways are the pace and schedules of on-going research and development projects being impacted by the uncertainty of future funding? (Please discuss particular programs where appropriate as well as overall Laboratory management.)

ANSWER: A central issue in the management of our technical programs is that of focusing the energies of our people on the research questions at hand, rather than letting those energies become diverted or scattered by funding or staffing uncertainties. In addition, to such generalized losses in productivity, the current and projected cuts in LLNL

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Energy R & D Programs is having two effects, first program objectives have been scaled down considerably and second, morale and personnel transfer issues have become central. Today's programs are being vectored toward shorter term program milestones. For example, the large scale field experiment planned by our Underground Coal Gasification program was replaced with a very small field experiment. In the Aluminum-Air Battery Program, our projection for completion of a demonstration vehicle has slipped at least two years. Construction of a laboratory scale pilot plant supporting our SYNROC program has been stopped and is being dismantled. Health and Environmental Research is being cut back by a third and key personnel with specialized skills are being lost.

QUESTION 5: What problems do you anticipate encountering should rehiring of personnel be necessitated after a reduction in force? What are the associated costs of personnel terminations (for example, severance pay, etc.), and of such rehiring? Similarly, what is the nature of the dispersal of key research teams who are targeted for termination because of funding levels contained in the Administration's proposed FY 1983 budget?

ANSWER: The Laboratory hopes to avoid a reduction in force by steady attrition to affordable levels. If, however, we were to have a reduction in force, the cost per employee would be expected to be about $15,000, including severance pay, processing, and so forth. The cost of rehiring a former employee is virtually the same as that for a new hire. We estimate that cost, at Livermore, to be about $5,000 per new employee, not including "Q" clearance costs which are a cost to DOE but not to the Laboratory.

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In a multidisciplinary project-oriented Laboratory such as ours, the effective functioning of key research teams is one of our most important assests. The disruption of these project groups, whether through attrition or reduction in force, takes many months to several years to repair even if program funding is later restored. These factors are critical to the maintenance of key research efforts.

At this point in my statement, I would like to turn to a discussion of the relationship between weapons and nonweapons activities at the National Laboratories, particularly at Lawrence Livermore National Laboratory.

A continuing major responsibility of the Lawrence Livermore National Laboratory is to conduct nuclear weapons research and to design specific weapons in response to national defense requirements. This responsibility includes scientific and technical support of all facets of the nuclear weapons program. To support this mission, we have developed into a strong, multidisciplinary, goal-oriented, applied science Laboratory capable of solving complex problems. This capability has been used not only to address defense problems, but also other important national problems. Such tasks are selected on the basis of synergism with our weapons program, importance to the nation, appropriateness to our parent agency, and appropriateness to this National Laboratory. This latter criterion requires a careful analysis of whether a project is optimally placed here on the basis of our mix of skills and facilities versus those in industry or a University setting.

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On many of the energy technology projects, our role is one of performing multidisciplinary research in areas that fall between the interests or capabilities of the universities and industry. The universities can, and should, do most of the fundamental research. We concentrate on goal-oriented applied research. In general, therefore, our nonweapon research is characterized by large scale, long duration, high risk, multidisciplinary activities. Today, as a natural outgrowth of national requirements and our unique strengths, about half of our efforts are devoted to the weapons role and about half to magnetic and laser fusion research, biomedical and environmental research, applied energy technology, and related research activities.

Historically DOE and its predecessor organizations have used the national nuclear weapons laboratories as national resources to provide technical leadership, execution, or major support on a wide variety of projects. For example, our atmospheric research capabilities have been used to help other Government agencies many times. Our calculational effort to project radioactivity contours was used operationally at Three Mile Island. Our nuclear instrumentation personnel and field management abilities have been called into play; for example, in searching for the Soviet RORSAT which came down over Canada (Project Morning Light). We have been requested to aid the CIA, the Department of Transportation, and the Nuclear Regulatory commission in major undertakings. We have been solicited on a number of occasions to provide leadership in DoD high technology areas; our charged particle beam program is one example, our work on very advanced high speed computers is another. Our program

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in nonnuclear ordnance was strongly urged by the DoD and makes significant contributions to operational capabilities. These efforts, of which the above are but a few examples, were concurred in by DOE (and predecessors) and Laboratory management. They clearly represent the fact that while DOE's assigned role may involve specialized technologies (e.g., nuclear weapons, energy research, basic science), DOE's applied laboratories are indeed considered both by DOE and other executive agencies as national resources. Indeed Congress specifically enacted legislation to place the word National in the titles of the Weapon Laboratories to make this point.

There are several reasons why the Laboratory should be involved in nondefense as well as defense efforts. In a number of areas, we are the best place for the DOE to accomplish work that generically is the kind it wishes to assign one of its laboratories. We have major expertise and management ability to execute large "one of a kind" applied science projects. In certain science/technology areas, we have developed special capabilities: cellular and sub-cellular biological diagnostics, interpretation and research; laser and quantum optics research; numerical modeling of complex phenomenology, and major computer capability; cryogenic magnet research and application; plasma physics phenomenology; thermonuclear fusion--large and small, classified and unclassified; major capability in geology, seismic and atmospheric research; structural response analysis; management of large scale science and technology field efforts.

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It is not unusual for the DOE and other executive agencies to solicit LLNL's help on programs or projects having major emphasis in one or more of the above areas. For example, we were asked to provide computer capacity for the magnetic fusion community because Washington concluded after thorough study that we were the most capable civil or governmental organization to do so. We were also solicited to lead the liquefied gaseous fuel safety program. In another instance, Headquarters felt that our applied programs in nuclear weapons, reactors, and peaceful uses of nuclear explosives demanded that we build a biomedical program to evaluate nuclear effects on the environment. Their position was later amended to include chemical effects as well. At other times, programs have been inaugurated by LLNL conforming to its and Washington's criteria, which would not have otherwise been started but which have been subsequently well received. The charged particle beam program, our computer aided design and fabrication of advanced computer concepts, and our laser isotope separation programs are examples.

In summary, the symbiotic and synergistic relationship between energy and other nonweapons research and nuclear weapons research has benefited both sets of programs. To divorce one from the other would be to maximize the impact of budgetary and staffing "ups and downs." Productive research has been enhanced by the close ties among multidisciplinary programs, whether energy or defense, and those relationships are in the best interest of the nation.

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